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WADC TECHNICAL REPORT 53-107
PART 2

CORRELATION OF TEMPERATURE-HUMIDITY TESTS

PART 2 PHASE I TESTS

MICHAEL FREDERICK
EUGENE FORNARIO

NEWARK COLLEGE OF ENGINEERING

DECEMBER 1953

WRIGHT AIR DEVELOPMENT CENTER

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WRIGHT AIR DEVELOPMENT CENTER
AIR RESEARCH AND DEVELOPMENT COMMAND
UNITED STATES AIR FORCE
WRIGHT-PATTERSON AIR FORCE BASE, OHIO

FOREWORD

This is Part 2 of six parts of WADC TR 53-107 "Correlation of Temperature-Humidity Tests", prepared by the Newark College of Engineering under contract AF 33(616)-261. This contract was initiated and administered by the Environmental Criteria Branch, Wright Air Development Center under the project identified by Research and Development Order No. 560-87 "Determination of Climatic and Environmental Criteria, Requirements and Test Procedures".

The experimental work was carried out at the Newark College of Engineering by Mr. Eugene Fornario under the supervision of Professor Michael Frederick of the Chemical Engineering Department. Mr. J. R. Grimm was the WADC Project Engineer. Mr. C. W. Gerhardt of the Equipment Laboratory, Wright Air Development Center cooperated on this project.

ABSTRACT

Plastic and metal specimens were subjected to four different temperature-humidity tests selected by the Wright Air Development Center to establish the degree of correlation, deterioration effects and relative merits of these tests. The data and results of Phase I tests are described.

PUBLICATION REVIEW

The publication of this report does not constitute approval by the Air Force of the findings or the conclusions contained therein. It is published only for the exchange and stimulation of ideas.

FOR THE COMMANDER:

H. A. BOUSHEY
Colonel, USAF
Director of Air Weapon Systems

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INTRODUCTION

The problems associated with the effects of humidity on USAF aeronautical and associated equipment are not new. Operation in tropical areas during World War II emphasized the need for design consideration against the degradation of equipment by moisture. Laboratory test procedures using various "humidity cycles" were incorporated into procurement documents in an effort to insure that satisfactory equipment would be procured. The first concentrated attempt within the USAF to consolidate and standardize the various test cycles was made in Specification 41065, "Equipment, General Specification for Environmental Test of", issued in December 1945. Specification 41065 has subsequently been superceded by Specification MIL-E-5272(USAF), "Environmental Testing, Aeronautical and Associated Equipment (General Specification For)", which formed the basis for the humidity test correlation program.

While Specification MIL-E-5272(USAF) has reduced the number of test "cycles" in use, Section 4.4, Humidity Tests, of that specification still contains three procedures. Questions have been repeatedly asked concerning these procedures, their use, and relative merits. Basic data, in the past, to answer such questions has been non-existent. This testing program was undertaken in an effort to provide answers to these questions and where possible to further the standardization effort.

The humidity test "cycles" selected for comparison included:

a. Procedure I of Specification MIL-E-5272(USAF)

b. Procedure III of Specification MIL-E-5272(USAF)

c. Procedure I of Specification MIL-E-5272(USAF) modified to a maximum temperature of 49°C (120°F).

d. The Humidity Test Cycle for Electric and Electronic Component Parts (MIL-STD-202).

Procedure II of Specification MIL-E-5272(USAF) was not included as it had been included in a previous program of this type.

The cycle for component parts was included in order that a determination could be made of its characteristics versus the characteristics of equipment cycles. This component cycle is the same as contained in MIL-STD-202, "Test Methods for Electronic and Electric Component Parts" with the low temperature and vibration steps deleted.

Of the four test phases selected, the data and results of Phase I tests are described in this report.

CORRELATION OF TEMPERATURE-HUMIDITY TESTS

SECTION I TEST CYCLE AND FACILITIES

This report contains the results of Humidity Test Procedure I of Specification MIL-E-5272 (USAF) which was performed twice (Fig. 1).

The Phase I test cycle was as follows:

The temperatures in the chamber shall be raised from a temperature between 20° and 38°C (68° to 100.4°F) to 71°C (160°F) during a 2-hour period. The temperature of 71°C (160°F) and a relative humidity of 95 percent shall be maintained during the next 6-hour period. During the following 16-hour period, the temperature in the chamber must drop at a uniform rate to 20° to 38°C (68° to 100.4°F) which constitutes one cycle. The cycle shall be repeated a sufficient number of times to extend the total time of the test to 360 hours (15 cycles).

The testing cabinet was a Tenney Temperature Humidity Chamber, model TH-10. The inside dimensions were 22" wide, 19" deep and 48" high with five shelves of wire construction. Wet and dry-bulb thermoregulators controlled the wet and dry-bulb temperatures of the air being circulated within the chamber. A more detailed description of the cabinet, its construction, operation and performance is given in WADC TR 53-107 Pt 1.

SECTION II TEST SPECIMENS

The following test specimens were used:

A. Exposed specimens

1. Plastics

a. Laminated Thermosetting
Grade LTSE2 (XX Phenolformaldehyde, black).
Commercial product used: Black XX - 301 Phenolite.
Size 1/8" x 4" x 2".

b. Rigid Thermoplastic
Grade RTP-OS-2 (Plexiglass).
Commercial product used: Lucite.
Size 1/8" x 4" x 2".

c. Terminal Boards
Molded bakelite barrier type boards with plated brass terminals and screws. Six terminal type.
Commercial product use: Cinch Jones type terminal boards. Six terminal type.
Size 3½" long x 7/8" wide.

2. Metals

a. Cold rolled steel panels, C-1008.
Size 1/16" x 4" x 2".

b. Cold rolled steel panels, C-1008, which were zinc plated to a commercial thickness.
Size 1/16" x 4" x 2".

c. Aluminum panels, 52S-O (good resistance).
Size 1/16" x 4" x 2".

d. Aluminum panels, 24S-O (poor resistance).
Size 1/16" x 4" x 2".

e. Aluminum bolted panels, 52S-O. The panels were bolted with three brass machine screws (1/4" x 1/2"-20 thread) and brass hexagon nuts (1/4" - 20 thread.) Each specimen was fitted with:

(1) 1/4" brass washers
(2) 1/4" steel washers, cadmium plated to a commercial thickness.
(3) 1/4" steel washers, tin plated to a commercial thickness.

The bolted assembly is illustrated in Figure 11 of WADC TR 53-107 Pt 1.

f. Harvel "612" coated cold rolled steel panels, C-1008, Size 1/16" x 4" x 2".

B. Enclosed Specimens

One each of the Phenolite, terminal board, steel and bolted aluminum specimens were enclosed in five pint size preservative type jars which were closed with a glass top. A 1/4" hole was drilled in the glass top to permit the humid air to enter during the testing period.

C. Control Specimens

Two specimens of each material were used as controls and kept in a humidity jar.

The following number of specimens were used during a phase test:

A. Plastics

1. Phenolite 12
   a. exposed 5
   b. enclosed 5
   c. controls 2
2. Lucite 7
   a. exposed 5
   b. controls 2
3. Terminal Board 12
   a. exposed 5
   b. enclosed 5
   c. controls 2

B. Metals

1. Steel 52
   a. exposed 45
   b. enclosed 5
   c. controls 2

2. Steel, zinc coated . . 23

a. exposed 21

b. controls 2

3. Aluminum, 52S 23

a. exposed 21

b. controls 2

4. Aluminum, 24S 23

a. exposed 21

b. controls 2

5. Aluminum bolted 28

a. exposed 21

b. enclosed 5

c. controls 2

6. Harvel coated steel . 23

a. exposed 21

b. controls 2

SECTION III REMOVAL SCHEDULE

The specimens were removed from the test chamber after the following days of exposure.

A. Exposed Specimens

1. Plastics

a. Phenolite	1, 2, 3, 4, 5, 7, 11, 13, 15
b. Lucite	1, 2, 3, 4, 5, 7, 11, 13, 15
c. Terminal Boards	1, 2, 3, 4, 5, 6, 7, 8 9, 10, 11, 12, 13, 14, 15

2. Metals

a. Steel	1, 2, 3, 4, 5, 6, 7, 8 9, 10, 11, 12, 13, 14, 15
b. Steel, zinc coated	3, 5, 7, 9, 11, 13, 15
c. Aluminum, 52S	3, 5, 7, 9, 11, 13, 15
d. Aluminum, 24S	3, 5, 7, 9, 11, 13, 15
e. Aluminum, 52S bolted	3, 5, 7, 9, 11, 13, 15
f. Harvel coated steel.	3, 5, 7, 9, 11, 13, 15

B. Enclosed Specimens	1, 2, 3, 4, 5, 6, 7, 8 9, 10, 11, 12, 13, 14, 15
C. Control Specimens	Same schedule as the exposed specimens.

All five of each kind of exposed plastic specimens were withdrawn according to the preceding schedule, tested and returned to the testing chamber.

Three of each of the exposed metal specimens and the Harvel coated steel were removed as indicated above, tested and discarded.

The enclosed specimens which were removed daily were returned to the chamber after testing.

The controls were tested on the same schedule as the exposed specimens and returned to the humidity jars.

SECTION IV MEASUREMENT PROCEDURES

The following measurements and observations were made:

A. Exposed Specimens

1. Plastics

a. Phenolite

(1) Surface resistance

(2) Weight increase

(3) Photographs of marked physical changes.

b. Lucite

(1) Surface resistance when in range of instrument

(2) Weight increase

(3) Photographs of marked physical changes.

c. Terminal Boards

(1) Surface resistance

(2) Weight increase

(3) Photographs of marked physical changes.

2. Metals

a. Steel

(1) Weight decrease after cleaning panel

(2) Photographs before cleaning panel

(3) Notation of physical changes and pitting.

b. Steel, zinc plated

(1) Weight increase before cleaning panel

(2) Weight decrease after cleaning panel

(3) Photographs before cleaning panel

(4) Notation of physical changes and pitting.

c. Aluminum, 52S

(1) Weight increase

(2) Photographs of panels

(3) Notation of physical changes and pitting.

d. Aluminum, 24S

(1) Weight increase

(2) Photographs of panels

(3) Notation of physical changes and pitting.

e. Aluminum bolted, 52S

(1) Weight increase

(2) Photographs of panels

(3) Notation of physical appearance and pitting of

(a) panel

(b) washers

(c) nuts and bolts.

f. Harvel coated steel - qualitative observations as:

(1) film adhesion

(2) film softening

(3) film cracking.

B. Enclosed Specimens

1. Phenolite - The same measurements as the exposed phenolite specimens.

2. Terminal Boards - The same measurements as the exposed terminal boards.

3. Steel

a. Photographs of panels

b. Notation of physical changes.

4. Aluminum Bolted, 52S

   a. Photographs of panels

   b. Notations of physical appearance and pitting of

      (1) panel

      (2) washers

      (3) nuts and bolts.

C. Control Specimens - The same measurements were made as on the exposed specimens.

D. Breather Jars - A check was kept on the jars containing the enclosed specimens for accumulation of any moisture during the test.

All electrical resistances were measured by using a Keithly Vacuum Tube Electrometer as a microammeter. With a shunt of 10^{12} ohms, the instrument was capable of determining resistances of the order of 10^{15} ohms. Details of the measurement are described in WADC TR 53-107 Pt 1.

All weighings were made on an analytical balance sensitive to 0.1 mg at full load. The qualitative tests made on Harvel coated steel are described in WADC TR 53-107 Pt 1.

The report WADC TR 53-107 Pt 1 also contains additional comments on the above procedures outlined.

SECTION V CALCULATIONS

The data taken was treated as follows:

A. Weight Change Data

1. Plastic

a. Procedure

(1) The percent weight increase was computed from the final and initial weight of the specimen.

(2) The daily average percent weight increase of each set of exposed, enclosed and control specimens was computed for each test run.

(3) The average percent weight increase of each set for Phase I tests was calculated from the averages of Test 1 and Test 2.

(4) The result obtained was then plotted as Percent Weight Increase versus Days Exposed. A smooth curve was then drawn through the points plotted. The curve drawn was determined visually to be the best fit for the data plotted.

b. Sample Calculation
Exposed Terminal Board Data

(1) Data from Table 1
Specimen No. 6

Weight of Specimen	34.9277 g	35.4085 g
Days Exposed	0	3

$$\% \text{ Weight Increase} = \frac{35.4085 - 34.9277}{34.9277} \times 100$$

$$= 1.377$$

The percent weight increase calculated was tabulated in Table 3.

(2) Data from Table 3
Days Exposed 3

Exposed Specimen	% Weight Increase
No. 6	1.377
" 7	1.347
" 8	1.309
" 9	1.451
" 10	1.536
	1.404 Average

The daily average percent weight increase calculated was tabulated in Table 5.

(3) Data from Table 5
Exposed Specimens
Days Exposed 3

Average of Test 1, Specimens 6-10	1.404 % Weight Inc.
Average of Test 2, Specimens 18-21	1.407
Average of Phase I Exposed Specimens	1.4055

The average percent weight increase of Phase I calculated was tabulated in Table 6.

(4) The data from Table 6 was plotted in Figure 2.

c. The data on the enclosed Terminal Board, exposed Phenolite, enclosed Phenolite and exposed Lucite specimens was treated similarly.

2. Metal

a. Procedure

(1) The weight decrease was computed from the initial and final weight of the exposed specimen.

(2) The daily average weight decrease for Phase I was computed from the individual results of Tests 1 and 2.

(3) The daily average rate decrease was computed by dividing the average weight decrease by the number of days exposed. Surface area was considered to be constant since the average deviation of the surface area was much smaller than that of the weight decrease. The rate calculated as weight decrease per day differs from the rate usually calculated as weight change per unit area per day by a proportionality constant.

(4) The result obtained was plotted on semi-logarithmic graphing paper as Rate versus Days Exposed. A smooth curve was drawn through the points plotted. The curve drawn was determined visually to be the best fit for the data plotted.

(5) The average weight change of the metal specimen was computed by multiplying the average rate, as read off from the above graphs, by the corresponding number of days exposed.

(6) The mean value of the average rate was obtained by dividing the area under the graph by the length of the interval. The area under the curve was obtained by dividing it into a number of narrow trapezoids, computing the area of each trapezoid and summing these up for the interval considered.

b.b. Sample Calculation
Exposed Steel Data

(1) Data from Table 37
Specimen No. X 12
Days Exposed 3

Initial Weight	61.5678 g
Final Weight	61.5213 g
Weight Decrease	0.0465 g

The weight decrease calculated was tabulated in Table 38.

(2) Data from Tables 38 and 41
Days Exposed 3

Exposed Specimens	Weight Decrease	
No. X12	0.0465 g	
" X13	0.0473 "	
" X14	0.0342 "	
" X64	0.0178 "	
" X65	0.0172 "	
" X66	0.0252 "	
	0.0314 g	Average

The daily average weight decrease for Phase I calculated was tabulated in Table 42 column a.

(3) Data from Table 42 column a
Days Exposed 3

Average Rate = $\frac{0.0314}{3}$ = 0.0105 g/day

The average rate decrease calculated was tabulated in Table 42 column b.

(4) The data from Table 42 column b was plotted in Figure 11 on four cycle semi-logarithmic graphing paper.

(5) Data from Figure 11
Steel
Days Exposed 5

Average Rate 0.011 g/day
Average Weight Change = 5 x 0.011 = .055 g.

The data read off the graph in Figure 11 and the average weight changes computed were tabulated in Table 59.

(6) Data from Figure 11
Steel

Interval	Mean Height	Interval	Area of Trapezoid
0-4 days	2.92 inches	1.00 inches	2.92 sq. in.
4-8 "	2.38 "	1.00 "	2.38 " "
8-12 "	1.86 "	1.00 "	1.86 " "
12-15 "	1.48 "	0.75 "	1.11 " "
		3.75 inches	8.27 sq. in.

Mean Ordinate = $\frac{8.27}{3.75}$ = 2.21 inches

Scaled against the rate axis, 2.21 inches = 0.0077 g/day
The mean value of the average rates was tabulated in Table 60.

c. Data on the exposed Aluminum 24S, exposed Aluminum 52S and exposed Aluminum 52S Bolted specimens was treated similarly. The weight changes of the zinc coated steel specimens were considered as being too small and inaccurate for plotting.

B. Resistance Measurement Data

1. Procedure

a. The resistance was calculated from the readings taken by means of the equation

$$R_X = R_s \times \frac{E_o - E}{E}$$

where R_X = resistance of the specimen in ohms

R_s = resistance of the shunt in ohms

E = electrometer reading in volts

E_o = applied voltage in volts

b. From the logarithm of the calculated resistance of each specimen, the daily mean value was computed for each test.

c. The mean value of the logarithm of the resistance for Phase I was calculated from the average values of Tests 1 and 2.

d. The results from c were plotted against the Days Exposed. A smooth curve was then drawn through the points plotted. The curve drawn was determined visually to be the best fit for the data plotted.

2. Sample Calculation
Exposed Terminal Board Data

a. Data from Table 20
Specimen No. 6
Days Exposed 3

E_x = 7.0 volts

E_o = 25 volts

R_s = 10^7 ohms

$R_x = 10^7 \times \frac{25 - 7.0}{7.0} = 2.57 \times 10^7$ ohms

The resistance calculated was tabulated in Table 22.

b. Data from Table 22
Days Exposed 3

Specimen	R_x	Log R_x	
No. 6	2.57×10^7	7.410	
" 7	2.40×10^7	8.380	
" 8	2.57×10^7	7.410	
" 9	2.12×10^7	7.326	
" 10	1.78×10^7	7.250	
		7.5552	Average

The daily average log R_x calculated was tabulated in Table 24.

c. Data from Table 24
Days Exposed 3

Test 1 Average Log R_x of Specimens	6-10	7.5552
Test 2 " " " " "	18-22	7.1064
Average log R_x for Phase I		7.3308

The daily average log R_x of Phase I calculated was tabulated in Table 25.

d. The data in Table 25 was plotted in Figure 7.

3. The data on the enclosed Terminal Board, exposed Phenolite and enclosed Phenolite specimens was treated similarly. Since the data on the exposed Lucite specimens was incomplete, at times being outside the range of the instrument used, the results were not plotted.

SECTION VI RESULTS

The following changes were noted during the two Phase I tests of 15 days each:

A. Exposed Specimens

1. Plastics

a. Phenolite
No variation in the appearance of these specimens was noted.

b. Lucite
These specimens became opaque on the fifth day of exposure.

c. Terminal Board
These specimens showed evidence of surface weathering and powdering.

2. Metal
Corrosion initially developed at edges of specimens. Attack on the surface started at local points and spread uniformly from these areas.

a. Steel
A slight general corrosion occurred.
The rust was smooth and fine.
No measureable pitting occurred.

b. Steel, Zinc Plated
No significant corrosion occurred.

c. Aluminum, 52S
The corrosion was very slight.

d. Aluminum, 24S
The corrosion was very slight.

e. Aluminum Bolted, 52S

1. Aluminum Panel
Corrosion of surface was very slight.

2. Washers

(a) Brass
General corrosion occurred on the washers.

(b) Steel, Tin Plated
Tarnish developed on the washers

(c) Steel, Cadmium Plated
Localized attack occurred on the cadmium plating, which produced point failures and exposed the steel to corrosion.

3. Brass Bolts and Nuts
Initial and heaviest corrosion of the bolted specimens occurred on these parts.

f. Harvel Coated Steel
The properties and appearance of the coating were practically unaltered during the period of exposure.

B. Enclosed Specimens.

1. Plastics

a. Phenolite
No variation in the appearance of these specimens was noted during the tests.

b. Terminal Board
No variation in the appearance of the terminal boards was noted.

2. Metals

a. Steel
The corrosion of the enclosed steel specimens was similar to the exposed steel specimens but not as severe.

b. Aluminum Bolted, 52S
The attack on the enclosed bolted aluminum specimens was similar to the exposed bolted aluminum specimens but not as severe.

C. Control Specimens
The control specimens were practically unaffected during the period of the test.

D. Breather Jars.
No condensation of moisture in these containers was observed.

Photographs of exposed steel, enclosed steel, exposed bolted aluminum and enclosed bolted aluminum, taken on removal from the chamber were included in this report to illustrate the course of corrosion during the Phase I tests. A set of photographs of exposed steel specimens after cleaning was also included to complete the record.

Examination of the appended tables and graphs shows the following results:

A. Exposed Specimens

1. Plastics

a. The percent moisture absorbed by the exposed plastic specimens increases logarithmically with time and tends to level off toward the end of the test period. The order of decreasing percent weight change of the specimens as determined by the maximum percent weight changes is phenolite, terminal board and lucite.

b. The surface resistance decreases with time. The greatest change occurs within the first five days of exposure, and levels off after that time. The drop in surface resistance of the terminal board specimens was greater than that of the phenolite.

c. The surface resistance data of the lucite was considered as being unreliable for graphing since the measurements were made at the extreme range of the instrument. The computed resistances are of the order of 10^{14} to 10^{15} ohms. At times the resistance of the lucite specimens was beyond the range of the instrument of 10^{16} ohms resulting in incomplete data.

2. Metals

a. The average rates of corrosion of the metals decrease with time. The average weight changes as calculated from the average rate graphs and tabulated in Table 59 indicate a leveling off for the steel and Al 52S bolted specimens after five days of exposure. The calculated weight changes of the Al 24S and Al 52S show smaller value for the fifteenth day than for the fifth and tenth days.

b. The order of decreasing corrosion rates as determined by the mean value of the average rates summarized in Table 60 is steel, Al 528 bolted, Al 528 and Al 248.

B. Enclosed Specimens

1. Plastics

a. The enclosed plastic specimens show the same variations in percent weight changes and surface resistance as the exposed plastic specimens but to a much smaller degree.

b. The percent moisture absorbed by the enclosed plastic specimens increases logarithmically with time and tends to level off toward the end of the test period. The enclosed phenolite specimens show a greater percent weight change than the enclosed terminal boards. The maximum percent weight change of the enclosed plastic specimens is much greater than the change of the corresponding exposed plastic specimens.

c. The surface resistance of the enclosed phenolite and terminal board specimens decreases with time, the greatest change occurs within the first five days and levels off after that time. The terminal board specimens show a greater drop in surface resistance than the phenolite specimens.

2. Metals
No quantitative data was taken on the enclosed metal specimens.

SECTION VII CONCLUSIONS AND DISCUSSION

The following conclusions were drawn from the results obtained:

(1) Due to the leveling off of the percent weight change and the surface resistance of the plastic specimens, the test period may be shortened from fifteen to ten days without invalidating the test for plastic specimens.

(2) The shortening of the test period to ten days is supported by the calculated weight change data on the steel and Al 52S bolted specimens.

Although the results on the Al 24S and Al 52S are erratic, they do, to a degree, substantiate the above conclusion. The Al 24S specimens show the same maximum value after the fifth and tenth days of exposure. The Al 52S specimens show a maximum value for the fifth day of exposure and decreased values for the tenth and fifteenth day. In the last case, the computed weight change for the tenth day is the mean of the values for the fifth and fifteenth day.

(3) No comparison can be made between the plastic panels of phenolite and lucite and the terminal boards with regard to loss of resistance since the geometry of the specimens is different. The resistance path between terminals on the terminal boards was shorter than that on the phenolite and lucite specimens. Comparison of the surface resistance data of the phenolite and lucite specimens indicates the superiority of the latter.

(4) Lucite specimens becoming opaque during the test, indicates the inadvisability of using lucite for its optical properties under conditions approximating those of the test.

(5) The results on Harvel coated steel and zinc coated steel were inclusive since no significant change occurred. The results do show the stability of these coatings for protecting steel in a humid atmosphere.

(6) The corrosion of the Al 24S and Al 52 specimens was very slight indicating the stability of these metals in humid atmospheres. Since the mean value of the average rates of corrosion of Al 24S and Al 52S are nearly equal either metal is satisfactory for use.

(7) The corrosion of the Al 52 bolted specimens indicate the inadvisability of using brass in assemblies since the brass parts corroded the most during this test. Since tin plated washers were affected to a lesser degree than the cadmium plated washers, the commercial tin plating is considered a better protective coating for the steel than the commercial cadmium plating.

(8) The enclosed specimens showed changes which were not as great as those of the corresponding exposed specimens indicating that the containers offered some protection to the specimens.

(9) When the measured weight changes of the metal specimens were plotted against the days exposed, a random distribution of points was produced. The weight averages of the three specimens removed produced the same result. The average rate of change was plotted out of necessity and the calculated average weight change appeared to be consistent.

The randomness of weight change data is due to several factors as:

(a) The initial corrosion of metal specimens is a random property due to the physical structure of the surface and varies from specimen to specimen. Corrosion proceeds from weak points on the surface.

(b) The condensation of moisture on the surface in the form of droplets is a random property which cannot be controlled.

Better reproducibility of corrosion-time curves of similar metal specimens may be obtained by:

(a) using replicate specimens greater than three for testing

(b) not cleaning off the corrosion products and thereby making it possible to return the same specimens to the testing chamber.

SECTION VIII RECOMMENDATIONS

The following recommendations are made:

A. Test Period
Reduce the length of the test period from fifteen to ten days as indicated by the leveling off of the results noted for plastic and metal specimens.

B. Test Specimens

1. Eliminate the Harvel coated steel specimens since no appreciable changes were observed.

2. Eliminate the zinc coated steel specimens since no appreciable changes were observed.

C. Breather Jars
Use a metal container instead of the glass breather jar in order to reach equilibrium with the surroundings more rapidly. A stainless steel beaker without a spout and an improvised stainless steel cover would be suitable.

D. Test Procedures

1. Eliminate the resistance measurements on lucite unless an improved vacuum tube electrometer can be constructed. A suggested tube to use would be a General Electric FP54 or its equivalent which has an input resistance of 10^{15} ohms.

2. Eliminate the test for pitting since no measurable pitting was observed.

3. Do not remove corrosion products on metals since no appreciable pitting was observed.

4. Determine the corrosion of metals by increase of weight observed making it possible to return the metal specimens to the testing chamber and thereby improving the reproducability of the results.

5. Use five metal specimens instead of three to check results during a test and thereby improving the reliability of the mean values calculated for the metals.

TABLE 1

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 1
SPECIMEN TERMINAL BOARD
DATA WEIGHT - TIME

NO.	WEIGHTS IN GRAMS							
1"	34.6990	34.7820	34.8370	34.8937	34.9280	34.9664	34.9890	35.0140
2"	35.1714	35.2465	35.2910	35.3350	35.3750	35.4110	35.4303	35.4640
3"	34.9837	35.1440	35.1694	35.2225	35.2497	35.2727	35.3090	35.3306
4"	34.5935	34.6710	34.7145	34.7614	34.7964	34.8370	34.8511	34.8782
5"	35.1052	35.1885	35.2490	35.2980	35.3393	35.3790	35.4106	35.4306
6	34.9277	35.1632	35.2865	35.4085	35.5124	35.6000	35.6773	35.7517
7	34.8344	35.0640	35.1856	35.3037	35.4020	35.4880	35.5626	35.6287
8	35.0136	35.2375	35.3590	35.4720	35.5686	35.6557	35.7278	35.7930
9	35.2850	35.5380	35.6740	35.7970	35.9044	36.0034	36.0732	36.1504
10	34.5101	34.7730	34.9190	35.0400	35.1400	35.2390	35.2946	35.3605
11*	34.9223	34.9378	34.9402	34.9410	34.9438	34.9438	34.9460	34.9476
12*	34.6737	34.6830	34.6902	34.6917	34.6945	34.6941	34.6962	34.6967
Days Exposed	0	1	2	3	4	5	6	7
1"	35.0447	35.0621	35.0708	35.0933	35.1061	35.1269	35.1423	35.1384
2"	35.4842	35.4961	35.5098	35.5272	35.5503	35.5673	35.5750	35.5947
3"	35.3546	35.5772	35.3847	35.4023	35.4110	35.4487	35.4567	35.4650
4"	34.9057	34.9288	34.9330	34.9582	34.9708	34.9940	35.0257	35.0346
5"	35.4585	35.4744	35.4974	35.5244	35.5240	35.5456	35.5733	35.5824
6	35.8016	35.8408	35.8994	35.9588	36.0013	36.0292	36.0392	36.0818
7	35.6777	35.7224	35.7797	35.8368	35.8765	35.9032	35.9274	35.9638
8	35.8418	35.8959	35.9466	35.9917	36.0352	36.0568	36.0746	36.1032
9	36.2050	36.2598	36.3196	36.3706	36.4212	36.4443	36.4728	36.5082
10	35.3966	35.4316	35.4709	35.5076	35.5387	35.5467	35.5556	35.5826
11*	34.9474	34.9482	34.9482	34.9486	34.9505	34.9486	34.9498	34.9492
12*	34.6972	34.6980	34.6980	34.6983	34.7001	34.6983	34.6993	34.6993
Days Exposed	8	9	10	11	12	13	14	15

" Enclosed
* Control

TABLE 2

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 2
SPECIMEN TERMINAL BOARD
DATA WEIGHT - TIME

NO.	WEIGHT IN GRAMS							
13"	34.6700	34.7374	34.7815	34.8198	34.8560	34.8821	34.9354	34.9892
14"	35.2838	35.3518	35.3929	35.4338	35.4928	35.5643	35.5666	35.5891
15"	34.9935	35.0544	35.1098	35.1496	35.1816	35.2116	35.2356	35.2610
16"	35.0728	35.1270	35.2138	35.2412	35.2954	35.3158	35.3470	35.3803
17"	34.7311	34.7990	34.8447	34.9022	34.9330	34.9604	34.9878	35.0138
18"	34.6226	34.8704	34.9286	35.1652	35.2855	35.3610	35.4278	35.5254
19	35.0732	35.2944	35.4377	35.5654	35.6608	35.7442	35.8050	35.9087
20	35.2434	35.4517	35.5925	35.7088	35.8051	35.8907	35.9557	36.0412
21	34.7828	34.9890	35.1305	35.2481	35.3444	35.4294	35.4910	35.5774
22	35.0433	35.2426	35.3816	35.6970	35.6156	35.6498	35.7576	35.8570
23*	34.8588	34.8596	34.8611	34.8632	34.8632	34.8642	34.8646	34.8664
24*	34.8030	34.8038	34.8052	34.8073	34.8073	34.8083	34.8086	34.8106
Days Exposed	0	1	2	3	4	5	6	7
13"	35.0032	35.0047	35.0224	35.0620	35.0808	35.0974	35.1242	35.1446
14"	35.6114	35.6144	35.6334	35.6435	35.6632	35.6754	35.6892	35.7012
15"	35.3406	35.3321	35.3422	35.3552	35.3892	35.3936	35.4232	35.4275
16"	35.3922	35.4054	35.4370	35.4408	35.4544	35.4655	35.4881	35.5016
17"	35.0336	35.0576	35.0714	35.0872	35.1043	35.1262	35.1406	35.1500
18	35.5803	35.6253	35.6644	35.7000	35.7513	35.7902	35.8130	35.8486
19	35.9612	36.0014	36.0470	36.0821	36.1330	36.1746	36.2008	36.2337
20	36.0962	36.1467	36.1856	36.2298	36.2775	36.3168	36.3484	36.3834
21	35.6566	35.6878	35.7354	35.7816	35.8232	35.8682	35.8910	35.9134
22	35.8868	35.9400	35.9700	36.0214	36.0620	36.0820	36.1192	36.1686
23*	34.8668	34.8678	34.8676	34.8694	34.8704	34.8710	34.8716	34.8724
24*	34.8111	34.8116	34.8118	34.8136	34.8144	34.8136	34.8140	34.8150
Days Exposed	8	9	10	11	12	13	14	15

" Enclosed
* Control

TABLE 3

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 1
SPECIMEN TERMINAL BOARD
DATA PER CENT WEIGHT INCREASE - TIME

NO.								
1"	0	0.239	0.398	0.561	0.660	0.771	0.836	0.908
2"	0	0.214	0.340	0.465	0.579	0.681	0.736	0.832
3"	0	0.458	0.531	0.683	0.760	0.826	0.930	0.992
4"	0	0.224	0.350	0.485	0.587	0.689	0.745	0.823
5"	0	0.237	0.410	0.549	0.667	0.780	0.870	0.927
6	0	0.674	1.027	1.377	1.674	1.925	2.146	2.359
7	0	0.659	1.008	1.347	1.629	1.876	2.091	2.280
8	0	0.640	0.987	1.309	1.595	1.834	2.040	2.226
9	0	0.717	1.103	1.451	1.755	2.036	2.234	2.453
10	0	0.762	1.185	1.536	1.825	2.112	2.273	2.464
11*	0	0.044	0.051	0.054	0.062	0.062	0.068	0.072
12*	0	0.027	0.048	0.052	0.060	0.059	0.065	0.066
Days Exposed	0	1	2	3	4	5	6	7
1"	0.996	1.046	1.072	1.136	1.173	1.233	1.278	1.266
2"	0.889	0.923	0.962	1.012	1.077	1.126	1.148	1.204
3"	1.060	1.125	1.146	1.197	1.221	1.329	1.352	1.376
4"	0.903	0.952	0.981	1.054	1.091	1.158	1.249	1.275
5"	1.006	1.052	1.117	1.194	1.193	1.252	1.333	1.359
6	2.502	2.614	2.782	2.952	3.074	3.154	3.182	3.304
7	2.421	2.549	2.714	2.878	2.992	3.068	3.138	3.242
8	2.365	2.520	2.665	2.794	2.918	2.979	3.030	3.112
9	2.607	2.763	2.932	3.077	3.220	3.286	3.366	3.467
10	2.569	2.670	2.784	2.891	2.981	3.004	3.030	3.108
11*	0.072	0.074	0.074	0.075	0.081	0.075	0.079	0.077
12*	0.068	0.070	0.070	0.071	0.076	0.070	0.074	0.074
Days Exposed	8	9	10	11	12	13	14	15

" Enclosed
* Control

TABLE 4

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 2
SPECIMEN TERMINAL BOARD
DATA PER CENT WEIGHT INCREASE - TIME

NO.								
13"	0	0.194	0.322	0.432	0.536	0.612	0.766	0.921
14"	0	0.193	0.309	0.425	0.592	0.795	0.802	0.865
15"	0	0.174	0.332	0.446	0.538	0.623	0.692	0.764
16"	0	0.155	0.402	0.480	0.635	0.693	0.782	0.877
17"	0	0.196	0.327	0.493	0.581	0.660	0.739	0.814
18	0	0.716	0.884	1.567	1.915	2.133	2.326	2.608
19	0	0.631	1.039	1.403	1.675	1.913	2.086	2.382
20	0	0.591	0.991	1.321	1.594	1.837	2.021	2.264
21	0	0.593	1.000	1.338	1.615	1.571	2.036	2.284
22	0	0.854	0.965	1.365	1.633	1.730	2.038	2.321
23*	0	0.002	0.007	0.013	0.013	0.015	0.017	0.022
24*	0	0.002	0.006	0.012	0.012	0.015	0.016	0.022
Days Exposed	0	1	2	3	4	5	6	7
13"	0.961	0.965	1.016	1.131	1.186	1.233	1.310	1.369
14"	0.928	0.937	0.991	1.019	1.075	1.110	1.149	1.183
15"	0.992	0.968	0.996	1.034	1.131	1.163	1.228	1.240
16"	0.911	0.918	1.038	1.059	1.089	1.120	1.184	1.223
17"	0.871	0.940	0.980	1.025	1.075	1.138	1.179	1.206
18	2.766	2.896	3.009	3.112	3.260	3.372	3.438	3.541
19	2.532	2.646	2.776	2.877	3.022	3.146	3.215	3.309
20	2.420	2.563	2.673	2.799	2.934	3.046	3.135	3.235
21	2.512	2.602	2.739	2.872	2.991	3.121	3.186	3.250
22	2.406	2.559	2.644	2.791	2.906	2.963	3.070	3.068
23*	0.023	0.026	0.025	0.030	0.033	0.035	0.038	0.039
24*	0.023	0.025	0.025	0.030	0.033	0.030	0.032	0.034
Days Exposed	8	9	10	11	12	13	14	15

" Enclosed
* Control

TABLE 5

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TESTS 1 & 2
SPECIMEN TERMINAL BOARD
DATA AVERAGE PER CENT WEIGHT INCREASE - TIME

NO.	AVERAGE PER CENT WEIGHT INCREASE OF TEST 1							
1-5"	0	0.274	0.406	0.549	0.651	0.749	0.823	0.896
6-10	0	0.690	1.062	1.404	1.694	1.957	2.157	2.356
11-12#	0	0.036	0.050	0.053	0.061	0.061	0.067	0.069
Days Exposed	0	1	2	3	4	5	6	7
1-5"	0.926	1.020	1.056	1.119	1.151	1.220	1.272	1.296
6-10	2.493	2.623	2.775	2.918	3.037	3.098	3.149	3.247
11-12#	0.070	0.072	0.072	0.073	0.079	0.073	0.077	0.076
Days Exposed	8	9	10	11	12	13	14	15
NO.	AVERAGE PER CENT WEIGHT INCREASE OF TEST 2							
13-17"	0	0.182	0.338	0.455	0.576	0.676	0.756	0.868
18-21	0	0.633	0.977	1.407	1.700	1.864	2.117	2.383
23-24#	0	0.002	0.007	0.013	0.013	0.015	0.017	0.022
Days Exposed	0	1	2	3	4	5	6	7
13-17"	0.932	0.952	1.004	1.052	1.111	1.149	1.210	1.244
18-22	2.558	2.677	2.799	2.915	3.052	3.170	3.244	3.334
23-24#	0.023	0.026	0.025	0.030	0.033	0.033	0.035	0.037
Days Exposed	8	9	10	11	12	13	14	15

" Enclosed
Control

TABLE 6

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TESTS 1 & 2
SPECIMEN TERMINAL BOARD
DATA AVERAGE PER CENT WEIGHT INCREASE - TIME

AVERAGE PER CENT WEIGHT INCREASE OF TESTS 1 & 2

Enclosed	0.2280	0.3720	0.5020	0.6135	0.7125	0.7895	0.8825	0.9290
Exposed	0.6620	1.0195	1.4055	1.6970	1.9105	2.1370	2.3695	2.5255
Days	1	2	3	4	5	6	7	8

Enclosed	0.9860	1.0300	1.0855	1.1310	1.1845	1.2410	1.2700
Exposed	2.6500	2.7870	2.9165	3.0445	3.1340	3.1965	3.2905
Days	9	10	11	12	13	14	15
Exposed							

TABLE 7

CORRELATION OF TEMPERATURE-HUMIDITY TESTS

WADC TR 53-107 Pt 2
PHASE I
TEST 1
SPECIMEN PHENOLITE
DATA DIMENSIONS IN INCHES

NO.	LENGTH	WIDTH	THICKNESS
1"	4.00	2.00	0.112
2"	4.00	2.00	0.120
3"	4.00	2.00	0.125
4"	4.00	2.00	0.126
5"	4.00	2.00	0.112
6	4.00	2.00	0.121
7	4.00	2.00	0.124
8	4.00	2.00	0.124
9	4.00	2.00	0.125
10	4.00	2.00	0.108
11*	4.00	2.00	0.124
12*	4.00	2.00	0.127

WADC TR 53-107 Pt 2
PHASE I
TEST 2
SPECIMEN PHENOLITE
DATA DIMENSIONS IN INCHES

NO.	LENGTH	WIDTH	THICKNESS
13"	4.00	2.00	0.118
14"	4.00	2.00	0.120
15"	4.00	2.00	0.123
16"	4.00	2.00	0.122
17"	4.00	2.00	0.131
18	4.00	2.00	0.130
19	4.00	2.00	0.129
20	4.00	2.00	0.121
21	4.00	2.00	0.122
22	4.00	2.00	0.122
23*	4.00	2.00	0.129
24*	4.00	2.00	0.126

" Enclosed
* Control

TABLE 8

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 1
SPECIMEN PHENOLITE
DATA WEIGHT - TIME

NO.	WEIGHT IN GRAMS							
1"	19.8829	19.9830	20.0397	20.0905	20.1262	20.1690	20.1987	20.2187
2"	21.3700	21.4914	21.5440	21.5920	21.6391	21.6766	21.6977	21.7302
3"	21.8472	22.0023	22.0326	22.0761	22.1038	22.1250	22.1542	22.1764
4"	22.3075	22.4400	22.4940	22.5460	22.5875	22.6283	22.6537	22.6842
5"	19.8554	19.9631	20.0220	20.0660	20.1070	20.1432	20.1712	20.2012
6	21.4364	21.6440	21.7646	21.8686	21.9476	22.0122		22.1332
7	22.0374	22.2410	22.3622	22.4682	22.5526	22.6136		22.7345
8	22.0146	22.2390	22.3640	22.4695	22.5514	22.6096		22.7185
9	22.2680	22.4905	22.6240	22.7397	22.8340	22.8958		23.0215
10	19.0102	19.1760	19.2700	19.3535	19.4234	19.4760		19.5623
11*	21.8213	21.8624	21.8680	21.8703	21.8750	21.8766		21.8818
12*	22.5540	22.5930	22.6005	22.6029	22.6064	22.6082		22.6135
Days Exposed	0	1	2	3	4	5	6	7
1"	20.2360	20.2454	20.2568	20.2747	20.2841	20.2957	20.3012	20.3134
2"	21.7483	21.7734	21.7897	21.8002	21.8161	21.8371	21.8401	21.8536
3"	22.1933	22.2076	22.2224	22.2367	22.2546	22.2678	22.2806	22.2898
4"	22.7008	22.7198	22.7261	22.7417	22.7697	22.7737	22.7776	22.7673
5"	20.2138	20.2290	20.2404	20.2655	20.2773	20.2052	20.3054	20.3104
6				22.2802		22.3186		22.3597
7				22.8081		22.9292		22.9710
8				22.8518		22.8804		22.9126
9				23.1905		23.2288		23.2696
10				19.6875		19.7174		19.7416
11*				21.8844		21.8868		21.8868
12*				22.6156		22.6175		22.6200
Days Exposed	8	9	10	11	12	13	14	15

" Enclosed
* Control

TABLE 9

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 2
SPECIMEN PHENOLITE
DATA WEIGHT - TIME

NO.	WEIGHT IN GRAMS							
13"	20.9873	21.0783	21.1780	21.2167	21.2772	21.2961	21.3514	21.3974
14"	21.2156	21.3053	21.3553	21.3977	21.4230	21.5024	21.5094	21.5292
15"	21.7826	21.8780	21.9268	21.9710	22.0370	22.0582	22.0863	22.1262
16"	21.5660	21.6598	21.7221	21.7970	21.8288	21.8610	21.8861	21.9154
17"	22.2904	22.3712	22.4194	22.4554	22.4902	22.5161	22.5442	22.5696
18	21.8401	22.0462	22.1668	22.2960	22.3823	22.4433		22.5661
19	22.9364	23.1630	23.3102	23.4412	23.5408	23.6218		23.7554
20	21.3848	21.5730	21.7034	21.8054	21.8900	21.9550		22.0750
21	21.6600	21.8776	22.0250	22.1428	22.2438	22.3272		22.4466
22	21.6921	21.9068	22.0480	22.1714	22.2688	22.3662		22.4776
23#	22.5894	22.5943	22.6006	22.6063	22.6098	22.6120		22.6183
24#	21.9135	21.9192	21.9251	21.9312	21.9332	21.9342		21.9426
Days Exposed	0	1	2	3	4	5	6	7
13"	21.3940	21.4116	21.4140	21.4247	21.4331	21.4382	21.4517	21.4524
14"	21.5924	21.5911	21.5944	21.6266	21.6394	21.6378	21.6620	21.6570
15"	22.1412	22.1476	22.1579	22.1686	22.1841	22.1932	22.2092	22.2193
16"	21.9374	21.9548	21.9678	21.9767	21.9914	22.0158	22.0216	22.0518
17"	22.5952	22.6054	22.6318	22.6370	22.6653	22.6820	22.7060	22.7068
18				22.7007		22.7466		22.7767
19				23.9442		23.9840		24.0020
20				22.2100		22.2538		22.2392
21				22.5620		22.5920		22.6138
22				22.6186		22.6388		22.6656
23#				22.6281		22.6326		22.6373
24#				21.9516		21.9551		21.9592
Days Exposed	8	9	10	11	12	13	14	15

" Enclosed
Control

TABLE 10

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 1
SPECIMEN PHENOLITE
DATA PER CENT WEIGHT INCREASE - TIME

NO.								
1"	0	0.503	0.789	1.044	1.224	1.439	1.588	1.689
2"	0	0.568	0.814	1.039	1.259	1.435	1.533	1.686
3"	0	0.710	0.849	1.048	1.175	1.272	1.405	1.507
4"	0	0.594	0.836	1.069	1.255	1.438	1.552	1.689
5"	0	0.542	0.839	1.061	1.267	1.449	1.594	1.742
6	0	0.968	1.531	2.016	2.385	2.686		3.251
7	0	0.924	1.474	1.955	2.338	2.615		3.163
8	0	1.019	1.587	2.066	2.452	2.703		3.197
9	0	0.999	1.599	2.118	2.542	2.819		3.384
10	0	0.872	1.367	1.806	2.174	2.450		2.904
11*	0	0.188	0.214	0.225	0.246	0.253		0.277
12*	0	0.173	0.206	0.217	0.232	0.240		0.264
Days Exposed	0	1	2	3	4	5	6	7

1"	1.776	1.823	1.881	1.971	2.018	2.076	2.104	2.164
2"	1.770	1.888	1.964	2.013	2.080	2.186	2.200	2.263
3"	1.584	1.650	1.717	1.783	1.865	1.925	1.984	2.026
4"	1.763	1.848	1.876	1.946	2.073	2.090	2.107	2.061
5"	1.805	1.882	1.939	2.065	2.125	2.165	2.266	2.292
6				3.936		4.115		4.307
7				3.860		4.046		4.236
8				3.803		3.933		4.079
9				4.143		4.315		4.498
10				3.563		3.720		3.863
11*				0.289		0.300		0.300
12*				0.273		0.281		0.292
Days Exposed	8	9	10	11	12	13	14	15

" Enclosed
* Control

TABLE 11

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 2
SPECIMEN PHENOLITE
DATA PER CENT WEIGHT INCREASE - TIME

NO.								
13"	0	0.434	0.909	1.093	1.381	1.471	1.735	1.954
14"	0	0.423	0.658	0.858	1.001	1.352	1.385	1.478
15"	0	0.438	0.662	0.865	1.168	1.265	1.394	1.577
16"	0	0.435	0.724	1.071	1.218	1.368	1.484	1.620
17"	0	0.362	0.579	0.740	0.896	1.012	1.139	1.252
18	0	0.944	1.496	2.087	2.485	2.764		3.324
19	0	0.998	1.630	2.201	2.634	2.988		3.571
20	0	0.880	1.490	1.967	2.362	2.666		3.228
21	0	1.005	1.685	2.229	2.695	3.080		3.632
22	0	0.989	1.641	2.210	2.658	3.108		3.621
23*	0	0.024	0.050	0.077	0.090	0.100		0.128
24*	0	0.026	0.051	0.081	0.090	0.094		0.133
Days Exposed	0	1	2	3	4	5	6	7

13"	1.938	2.022	2.033	2.084	2.124	2.148	2.213	2.216
14"	1.776	1.723	1.785	1.937	1.998	1.990	2.104	2.080
15"	1.646	1.676	1.723	1.772	1.843	1.885	1.958	2.005
16"	1.722	1.808	1.863	1.904	1.973	2.086	2.112	2.251
17"	1.367	1.413	1.532	1.555	1.684	1.757	1.864	1.868
18				3.940		4.151		4.288
19				4.394		4.567		4.646
20				3.859		4.064		4.229
21				4.161		4.303		4.404
22				4.271		4 364		4.488
23*				0.171		0.191		0.212
24*				0.174		0.190		0.208
Days Exposed	8	9	10	11	12	13	14	15

" Enclosed
* Control

TABLE 12

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 1 & 2
SPECIMEN PHENOLITE
DATA AVERAGE PER CENT WEIGHT INCREASE - TIME

NO.	AVERAGE PER CENT WEIGHT INCREASE OF TEST 1							
1 - 5"	0	0.583	0.825	1.052	1.236	1.407	1.534	1.663
6-10	0	0.956	1.512	1.992	2.378	2.655		3.180
11-12*	0	0.181	0.210	0.221	0.239	0.247		0.271
Days Exposed	0	1	2	3	4	5	6	7
1 - 5"	1.740	1.818	1.875	1.956	2.034	2.088	2.132	2.161
6-10				3.861		4.026		4.197
11-12*				0.281		0.291		0.296
Days Exposed	8	9	10	11	12	13	14	15

NO.	AVERAGE PER CENT WEIGHT INCREASE OF TEST 2							
13-17"	0	0.418	0.706	0.925	1.132	1.294	1.427	1.576
18-22	0	0.961	1.538	2.139	2.567	2.921		3.475
23-24*	0	0.025	0.052	0.079	0.090	0.097		0.131
Days Exposed	0	1	2	3	4	5	6	7
13-17"	1.690	1.727	1.787	1.850	1.921	1.973	2.050	2.084
18-22				4.126		4.290		4.511
23-24*				0.173		0.191		0.210
Days Exposed	8	9	10	11	12	13	14	15

" Enclosed
* Control

TABLE 13

CORRELATION OF TEMPERATURE-HUMIDITY TEST
WADC TR 53-107 Pt 2
PHASE I
TESTS 1 & 2
SPECIMEN PHENOLITE
DATA AVERAGE PER CENT WEIGHT INCREASE - TIME

AVERAGE PER CENT WEIGHT INCREASE OF TESTS 1 & 2

Enclosed	0.5005	0.7655	0.9885	1.1840	1.3505	1.4805	1.6195	1.7150
Exposed	0.9585	1.5500	2.0655	2.4725	2.7880		3.3275	
Days Exposed	1	2	3	4	5	6	7	8

Enclosed	1.7725	1.8310	1.9030	1.9790	2.0305	2.0910	2.1225
Exposed			3.9935		4.1580		4.3540
Days Exposed	9	10	11	12	13	14	15

TABLE 14

CORRELATION OF TEMPERATURE-HUMIDITY TESTS

WADC TR 53-107 Pt 2
PHASE I
TEST 1
SPECIMEN LUCITE
DATA DIMENSIONS IN INCHES

NO.	LENGTH	WIDTH	THICKNESS
1	4.0000	2.0000	0.119
2	4.0000	2.0078	0.123
3*	3.9864	2.0078	0.130
4*	3.9922	2.0000	0.134
5	4.0078	2.0000	0.119
6	4.0000	2.0078	0.125
7	4.0000	2.0000	0.130

WADC TR 53-107 Pt 2
PHASE I
TEST 2
SPECIMEN LUCITE
DATA DIMENSIONS IN INCHES

NO.	LENGTH	WIDTH	THICKNESS
8	4.0156	2.0078	0.127
9	4.0000	2.0000	0.129
10	4.0078	1.9922	0.128
11	4.0078	2.0000	0.128
12	4.0000	2.0000	0.124
13*	4.0234	2.0078	0.137
14*	4.0078	2.0078	0.130

* Control

TABLE 15

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 1
SPECIMEN LUCITE
DATA WEIGHT - TIME

NO.	WEIGHT IN GRAMS				
1	18.3937	18.5640	18.6086	18.6174	18.6273
2	18.8591	19.0225	19.0710	19.0854	19.0954
3*	21.2376	21.2805	21.2847	21.2875	21.2890
4*	20.3109	20.3540	20.3576	20.3601	20.3645
5	18.4022	18.5710	18.6146	18.6250	18.6340
6	19.5000	19.6785	19.7270	19.7406	19.7516
7	19.7632	19.9370	19.9857	20.0014	20.0136
Days Exposed	0	1	2	3	4
1	18.6250	18.6350	18.6350	18.6327	18.6327
2	19.0924	19.1030	19.1030	19.1010	19.1010
3*	21.2890	21.2962	21.2974	21.2960	21.2947
4*	20.3643	20.3668	20.3718	20.3715	20.3706
5	18.6326	18.6411	18.6393	18.6382	18.6382
6	19.7510	19.7602	19.7586	19.7586	19.7607
7	20.0150	20.0223	20.0201	20.0225	20.0207
Days Exposed	5	7	11	13	15

* Control

TABLE 16

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 2
SPECIMEN LUCITE
DATA WEIGHT - TIME

NO.	WEIGHT IN GRAMS				
8	19.7340	19.7847	19.8201	19.8564	19.8659
9	19.9170	20.0660	20.1120	20.1394	20.1500
10	19.7969	19.9465	19.9922	20.0104	20.0303
11	19.0260	19.1727	19.2160	19.2306	19.2472
12	19.0930	19.2398	19.2827	19.3070	19.3196
13*	21.0327	21.0355	21.0307	21.0434	21.0458
14*	20.0570	20.0356	20.0570	20.0620	20.0636
Days Exposed	0	1	2	3	4
8	19.9704	19.9744	19.9740	19.9736	19.9746
9	20.1550	20.1606	20.1576	20.1600	20.1600
10	20.0344	20.0404	20.0415	20.0386	20.0372
11	19.2520	19.2624	19.2544	19.2566	19.2530
12	19.3206	19.3230	19.3246	19.3231	19.3253
13*	21.0456	21.0498	21.0561	21.0592	21.0614
14*	20.0644	20.0660	20.0743	20.0774	20.0794
Days Exposed	5	7	11	13	15

* Control

TABLE 17

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TESTS 1 & 2
SPECIMEN LUCITE
DATA PER CENT WEIGHT INCREASE - TIME

NO.				TEST 1					
1	0.926	1.168	1.216	1.270	1.257	1.316	1.316	1.299	1.299
2	0.866	1.140	1.200	1.253	1.237	1.293	1.293	1.283	1.283
3*	0.202	0.222	0.235	0.242	0.242	0.276	0.282	0.279	0.222
4*	0.212	0.230	0.244	0.264	0.263	0.275	0.300	0.298	0.294
5	0.917	1.154	1.211	1.260	1.252	1.298	1.288	1.282	1.282
6	0.874	1.123	1.192	1.249	1.246	1.293	1.285	1.285	1.295
7	0.879	1.126	1.205	1.267	1.274	1.311	1.300	1.312	1.303
Days Exposed	1	2	3	4	5	7	11	13	15

NO.				TEST 2					
8	0.764	0.904	1.127	1.175	1.194	1.216	1.216	1.214	1.219
9	0.752	0.983	1.117	1.174	1.198	1.223	1.218	1.220	1.220
10	0.756	0.987	1.119	1.179	1.200	1.223	1.236	1.221	1.214
11	0.772	0.999	1.117	1.163	1.192	1.243	1.200	1.213	1.193
12	0.769	0.994	1.121	1.187	1.192	1.209	1.213	1.205	1.217
13*	0.013	0.029	0.051	0.062	0.062	0.081	0.111	0.126	0.136
14*	0.107	0.000	0.025	0.033	0.037	0.055	0.086	0.102	0.112
Days Exposed	1	2	3	4	5	7	11	13	15

* Control

TABLE 16

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TESTS 1 & 2
SPECIMEN LUCITE
DATA AVERAGE PER CENT WEIGHT INCREASE - TIME

NO.	AVERAGE PER CENT WEIGHT INCREASE OF TEST 1								
1, 2, 5, 6, 7	0.892	1.142	1.205	1.260	1.253	1.302	1.296	1.292	2.28
3 - 4*	0.207	0.226	0.240	0.253	0.253	0.276	0.271	0.280	0.25
Days Exposed	1	2	3	4	5	7	11	13	15

NO.	AVERAGE PER CENT WEIGHT INCREASE OF TEST 2								
8 - 12	0.763	0.989	1.120	1.176	1.196	1.223	1.217	1.215	1.21
13 - 14*	-0.094	0.015	0.038	0.048	0.050	0.068	0.099	0.114	0.12
Days	1	2	3	4	5	7	11	13	15

* Control

TABLE 19

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TESTS 1 & 2
SPECIMEN LUCITE
DATA AVERAGE PER CENT WEIGHT INCREASE - TIME

AVERAGE PER CENT WEIGHT INCREASE OF TESTS 1 & 2

Exposed	0.8275	1.0655	1.1675	1.2180	1.2245
Days Exposed	1	2	3	4	5

Exposed	1.2625	1.2565	1.2535	1.2525
Days Exposed	7	11	13	15

TABLE 20

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 1
SPECIMEN TERMINAL BOARDS
DATA RESISTANCE MEASUREMENTS_TIME

NO.	E	E_o	R_s	E	E_o	R_s	E	E_o	R_s	E	E_o	R_s
1"	5.5	250	10^9	2.5	100	10^8	3.4	100	10^8	3.8	100	10^7
2"	6.4	250	"	2.8	100	"	3.2	100	"	2.5	100	"
3"	7.0	250	"	2.6	25	"	3.6	100	"	3.3	100	"
4"	6.3	250	"	3.0	100	"	2.7	100	"	1.6	100	"
5"	5.4	250	"	2.4	100	"	3.2	100	"	1.0	10	"
6	8.0	250	"	3.2	10	"	2.6	10	"	7.0	25	"
7	6.8	250	"	6.4	25	"	6.5	25	"	9.0	100	"
8	4.3	100	"	3.0	10	"	2.6	10	"	7.0	25	"
9	5.6	250	"	3.1	10	"	3.7	10	"	3.2	10	"
10	4.8	100	"	4.0	10	"	3.4	10	"	3.6	10	"
11*	3.0	100	"	1.6	100	"	5.6	100	10^9	1.8	250	10^8
12*	6.0	250	"	5.3	100	"	5.4	100	"	2.4	250	"
Days Exposed		0			1			2			3	

NO.	E	E_o	R_s	E	E_o	R_s	E	E_o	R_s	E	E_o	R_s
1"	0.8	250	10^9	2.4	25	10^8	3.2	100	10^7	1.0	100	10^7
2"	1.0	"	"	6.4	100	"	2.2	100	"	0.8	100	"
3"	1.2	"	"	2.2	25	"	4.0	100	"	1.3	100	"
4"	1.0	"	"	1.8	25	"	1.8	100	"	0.6	100	"
5"	1.4	"	"	7.0	100	"	2.0	100	"	0.6	100	"
6	1.2	"	"	5.6	10	10^7	7.4	10	"	4.0	10	10^6
7	1.5	"	"	5.8	100	10^6	3.5	25	10^6	3.2	10	"
8	0.9	"	"	6.7	100	"	2.1	25	"	1.6	10	"
9	0.9	"	"	2.5	25	"	3.7	25	"	2.6	10	"
10	1.0	"	"	4.4	25	"	3.4	25	"	2.2	10	"
11*	1.4	"	"	4.8	100	10^9	2.0	25	10^9	1.2	100	10^8
12*	1.4	"	"	4.4	100	"	1.5	25	"	2.0	250	"
Days Exposed		4			5			6			7	

E - Volts
E_o - Volts
R_s - Ohms
" Enclosed
* Control

TABLE 20

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 1
SPECIMEN TERMINAL BOARDS
DATA RESISTANCE MEASUREMENTS-TIME

NO.	E	E_o	R_s	E	E_o	R_s	E	E_o	R_s	E	E_o	R_s
1"	1.8	100	10^7	2.0	100	10^7	2.6	100	10^7	2.3	25	10^7
2"	1.6	100	"	1.8	100	"	1.4	100	"	5.3	100	"
3"	2.8	100	"	3.0	100	"	2.6	100	"	7.6	100	"
4"	1.8	100	"	1.8	100	"	1.5	100	"	3.8	100	"
5"	1.6	100	"	1.5	100	"	2.0	100	"	4.1	100	"
6	2.4	10	10^6	1.1	10	10^6	4.8	10	10^6	6.2	10	10^6
7	1.8	10	"	1.4	10	"	4.2	10	"	5.2	10	"
8	1.0	10	"	2.7	25	"	3.1	10	"	3.2	10	"
9	2.6	10	"	2.2	10	"	4.6	10	"	5.2	10	"
10	1.7	10	"	1.0	10	"	3.0	10	"	3.4	10	"
11*	1.0	100	10^8	1.3	100	10^8	1.5	100	10^8	7.6	100	10^9
12*	2.0	250	"	2.3	250	"	2.6	250	"	6.8	100	"
Days Exposed		8			9			10			11	

NO.	E	E_o	R_s	E	E_o	R_s	E	E_o	R_s	E	E_o	R_s
1"	7.6	100	10^7	2.1	25	10^7	2.3	25	10^7	0.8	25	10^7
2"	5.9	100	"	5.0	100	"	5.5	100	"	4.6	100	"
3"	7.0	100	"	7.6	100	"	6.3	100	"	6.6	100	"
4"	3.9	100	"	3.3	100	"	3.4	100	"	3.8	100	"
5"	3.6	100	"	2.6	100	"	2.4	100	"	2.8	100	"
6	6.6	10	10^6	6.4	10	10^6	6.6	10	10^6	2.1	2.5	10^6
7	5.8	10	"	4.6	10	"	6.0	10	"	5.9	10	"
8	4.0	10	"	3.0	10	"	3.3	10	"	3.5	10	"
9	6.2	10	"	5.4	10	"	6.2	10	"	7.0	10	"
10	4.6	10	"	3.6	10	"	3.2	10	"	5.6	10	"
11*	4.0	25	10^9	1.3	25	10^9	5.0	100	10^9	1.9	25	10^9
12*	2.4	25	"	4.3	100	"	3.5	100	"	4.4	100	"
Days Exposed		12			13			14			15	

E - Volts
E_o - Volts
R_s - Ohms

" Enclosed
* Control

TABLE 21

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 2
SPECIMEN TERMINAL BOARDS
DATA RESISTANCE MEASUREMENTS-TIME

NO.	E	E_o	R_s	E	E_o	R_s	E	E_o	R_s	E	E_o	R_s
13"	2.4	100	10^9	6.6	10	10^9	2.1	25	10^8	3.2	10	10^8
14"	4.3	250	"	5.4	10	"	4.0	100	"	2.0	10	"
15"	1.9	100	"	4.8	10	"	2.4	25	"	2.1	10	"
16"	1.8	100	"	3.8	10	"	2.4	25	"	1.6	10	"
17"	1.5	100	"	4.0	10	"	1.2	25	"	1.5	10	"
18	2.2	250	"	2.1	2.5	"	6.6	10	"	4.2	10	10^7
19	2.0	100	"	2.3	2.5	"	7.0	10	"	4.0	10	"
20	2.0	100	"	2.2	2.5	"	6.4	10	"	3.3	10	"
21	2.0	250	"	1.8	2.5	"	4.8	10	"	1.9	10	"
22	1.7	100	"	2.1	2.5	"	5.8	10	"	2.1	2.5	"
23*	1.9	100	"	4.8	100	"	2.0	250	"	2.0	250	10^8
24*	1.6	100	"	5.2	100	"	2.2	250	"	2.0	250	"
Days Exposed		0			1			2			3	

NO.	E	E	R	E	E	R	E	E	R	E	E	R
13"	1.2	100	10^7	1.6	100	10^7	3.2	100	10^7	3.0	100	10^7
14"	1.6	100	"	3.4	100	"	2.9	100	"	1.4	100	"
15"	1.6	100	"	1.4	100	"	1.2	100	"	1.0	100	"
16"	2.0	100	"	2.0	100	"	1.3	100	"	1.4	100	"
17"	1.1	100	"	1.4	100	"	0.9	100	"	0.8	100	"
18	2.4	10	10^6	3.7	10	10^6	4.4	10	10^6	3.2	10	10^6
19	1.3	10	"	2.3	10	"	2.4	10	"	2.0	10	"
20	2.4	25	"	4.6	25	"	4.6	25	"	2.5	25	"
21	1.4	25	"	3.2	25	"	3.2	25	"	1.4	25	"
22	1.1	25	"	1.4	25	"	1.4	25	"	3.4	100	"
23*	1.6	250	10^8	1.4	250	10^8	1.0	250	10^8	1.0	250	10^8
24*	1.4	250	"	1.4	250	"	1.0	250	"	1.0	250	"
Days Exposed		4			5			6			7	

E - Volts
E_o - Volts
R_s - Ohms

" Enclosed
* Control

TABLE 21

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 2
SPECIMEN TERMINAL BOARDS
DATA RESISTANCE MEASUREMENTS-TIME

NO.	E	E_o	R_s	E	E_o	R_s	E	E_o	R_s	E	E_o	R_s
13"	4.4	100	10^7	1.6	100	10^7	2.7	100	10^7	4.8	100	10^7
14"	2.0	100	"	1.4	100	"	1.4	100	"	2.0	100	"
15"	4.6	100	"	1.6	100	"	1.4	100	"	3.2	100	"
16"	1.4	100	"	1.2	100	"	1.6	100	"	2.0	100	"
17"	1.0	100	"	0.7	100	"	0.8	100	"	1.2	100	"
18	3.8	10	10^6	5.0	10	10^6	3.0	10	10^6	3.4	10	10^6
19	2.2	10	"	1.6	10	"	1.2	10	"	1.4	10	"
20	3.6	25	"	3.4	25	"	2.4	25	"	2.6	25	"
21	6.0	25	"	4.4	25	"	2.6	25	"	2.8	25	"
22	4.0	100	"	4.2	100	"	2.2	100	"	3.1	100	"
23*	1.4	250	10^8	1.3	250	10^8	1.1	250	10^8	1.7	250	10^8
24*	1.2	250	"	1.2	250	"	1.2	250	"	1.6	250	"
Days Exposed		8			9			10			11	

NO.	E	E_o	R_s	E	E_o	R_s	E	E_o	R_s	E	E_o	R_s
13"	6.6	100	10^7	6.8	100	10^7	6.6	100	10^7	3.6	25	10^7
14"	2.8	100	"	2.3	100	"	2.4	100	"	2.6	100	"
15"	5.8	100	"	2.8	100	"	4.0	100	"	3.8	100	"
16"	3.2	100	"	2.3	100	"	2.4	100	"	2.6	100	"
17"	2.0	100	"	1.9	100	"	1.6	100	"	1.8	100	"
18	3.0	10	10^6	4.2	10	10^6	4.0	10	10^6	5.4	10	10^6
19	1.0	10	"	2.6	10	"	1.8	10	"	1.8	10	"
20	2.2	25	"	4.0	25	"	3.8	25	"	3.9	25	"
21	3.2	25	"	6.4	25	"	4.4	25	"	3.3	25	"
22	1.9	25	"	6.8	100	"	1.3	25	"	6.6	25	"
23*	2.1	250	10^8	1.8	250	10^8	1.7	250	10^8	1.5	250	10^8
24*	2.1	250	"	1.7	250	"	1.6	250	"	1.5	250	"
Days Exposed		12			13			14			15	

E - Volts
E_o - Volts
R_s - Ohms

" Enclosed
* Control

TABLE 22

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 1
SPECIMEN TERMINAL BOARDS
DATA CALCULATED RESISTANCE-TIME

NO.	RESISTANCE IN OHMS			
1"	4.44×10^{10}	3.90×10^{9}	2.84×10^{9}	2.53×10^{8}
2"	3.81×10^{10}	3.47×10^{9}	3.02×10^{9}	3.90×10^{8}
3"	3.47×10^{10}	8.62×10^{8}	1.68×10^{9}	2.93×10^{8}
4"	3.87×10^{10}	3.23×10^{9}	3.60×10^{9}	6.15×10^{8}
5"	4.53×10^{10}	4.07×10^{9}	3.02×10^{9}	9.00×10^{7}
6	3.02×10^{10}	2.12×10^{8}	2.85×10^{8}	2.57×10^{7}
7	4.58×10^{10}	2.91×10^{8}	2.85×10^{8}	2.40×10^{8}
8	2.25×10^{10}	2.33×10^{8}	2.85×10^{8}	2.57×10^{7}
9	1.69×10^{10}	2.22×10^{8}	1.70×10^{8}	2.12×10^{7}
10	1.98×10^{10}	1.50×10^{8}	1.94×10^{8}	1.78×10^{7}
11*	3.23×10^{10}	6.15×10^{9}	1.68×10^{9}	1.38×10^{9}
12"	4.07×10^{10}	1.79×10^{9}	1.75×10^{9}	1.03×10^{9}
Days Exposed	0	1	2	3
1"	3.02×10^{11}	9.42×10^{8}	6.81×10^{8}	3.02×10^{8}
2"	2.49×10^{11}	1.46×10^{9}	4.44×10^{9}	4.44×10^{8}
3"	2.07×10^{11}	1.04×10^{9}	5.55×10^{8}	2.40×10^{8}
4"	2.49×10^{11}	1.29×10^{9}	5.46×10^{9}	5.46×10^{8}
5"	1.71×10^{11}	1.33×10^{9}	4.00×10^{8}	4.90×10^{8}
6	2.07×10^{11}	7.86×10^{6}	1.29×10^{8}	8.11×10^{5}
7	1.66×10^{11}	1.62×10^{7}	1.66×10^{6}	1.94×10^{6}
8	2.77×10^{11}	1.39×10^{7}	4.44×10^{7}	2.10×10^{6}
9	2.77×10^{11}	9.00×10^{6}	6.08×10^{6}	2.00×10^{6}
10	2.49×10^{11}	4.91×10^{6}	6.06×10^{5}	2.29×10^{6}
11*	1.77×10^{11}	1.98×10^{10}	1.01×10^{10}	4.94×10^{9}
12*	1.77×10^{11}	2.17×10^{10}	1.37×10^{10}	1.65×10^{10}
Days Exposed	4	5	6	7

" Enclosed
* Control

TABLE 22

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 1
SPECIMEN TERMINAL BOARDS
DATA CALCULATED RESISTANCE-TIME

NO.	RESISTANCE IN OHMS			
1"	5.46 x 10⁸	4.90 x 10⁸	3.75 x 10⁸	9.87 x 10⁷
2"	6.15 x 10⁸	5.46 x 10⁸	7.04 x 10⁸	1.63 x 10⁸
3"	3.47 x 10⁸	3.23 x 10⁸	3.75 x 10⁸	1.22 x 10⁸
4"	5.46 x 10⁸	5.46 x 10⁸	6.57 x 10⁸	2.53 x 10⁸
5"	6.15 x 10⁸	6.57 x 10⁸	4.90 x 10⁸	2.34 x 10⁸
6	3.17 x 10⁶	8.09 x 10⁶	1.10 x 10⁶	6.13 x 10⁵
7	4.56 x 10⁶	6.14 x 10⁶	1.38 x 10⁶	9.23 x 10⁵
8	9.00 x 10⁶	8.26 x 10⁶	1.78 x 10⁶	2.12 x 10⁶
9	2.85 x 10⁶	3.54 x 10⁶	1.17 x 10⁶	9.23 x 10⁵
10	5.47 x 10⁶	9.00 x 10⁶	2.33 x 10⁶	1.94 x 10⁶
11*	9.90 x 10⁹	7.59 x 10⁹	6.57 x 10⁹	1.22 x 10¹⁰
12*	1.24 x 10¹⁰	1.08 x 10¹¹	9.52 x 10¹⁰	1.37 x 10¹⁰
Days Exposed	8	9	10	11
1"	1.22 x 10⁸	1.09 x 10⁸	9.87 x 10⁷	3.02 x 10⁸
2"	1.59 x 10⁸	1.90 x 10⁸	1.72 x 10⁸	2.07 x 10⁸
3"	1.33 x 10⁸	1.22 x 10⁸	1.42 x 10⁸	1.41 x 10⁸
4"	2.46 x 10⁸	2.93 x 10⁸	2.94 x 10⁸	2.53 x 10⁸
5"	2.63 x 10⁸	3.75 x 10⁸	4.07 x 10⁸	3.47 x 10⁸
6	1.42 x 10⁷	5.62 x 10⁵	5.15 x 10⁵	4.64 x 10⁷
7	1.42 x 10⁷	1.17 x 10⁶	6.67 x 10⁵	6.95 x 10⁵
8	2.40 x 10⁷	2.33 x 10⁶	2.03 x 10⁶	1.86 x 10⁶
9	1.51 x 10⁷	8.52 x 10⁵	6.13 x 10⁵	4.28 x 10⁵
10	2.07 x 10⁷	1.78 x 10⁶	2.12 x 10⁵	7.86 x 10⁵
11*	2.40 x 10¹⁰	1.82 x 10¹⁰	1.90 x 10¹⁰	1.22 x 10¹⁰
12*	4.07 x 10¹⁰	2.22 x 10¹⁰	2.76 x 10¹⁰	2.17 x 10¹⁰
Days Exposed	12	13	14	15

" Enclosed
* Control

TABLE 23

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 2
SPECIMEN TERMINAL BOARDS
DATA CALCULATED RESISTANCE-TIME

NO.	RESISTANCE IN OHMS			
13"	4.07×10^{10}	5.15×10^{8}	1.09×10^{9}	2.12×10^{8}
14"	5.71×10^{10}	8.52×10^{8}	2.40×10^{9}	4.00×10^{8}
15"	5.16×10^{10}	1.08×10^{9}	9.42×10^{8}	3.76×10^{8}
16"	5.46×10^{10}	1.43×10^{9}	9.42×10^{8}	5.25×10^{8}
17"	6.57×10^{10}	1.50×10^{9}	1.98×10^{9}	5.67×10^{8}
18	1.13×10^{11}	1.90×10^{8}	5.15×10^{7}	1.38×10^{7}
19	4.90×10^{10}	8.70×10^{8}	4.28×10^{7}	1.50×10^{7}
20	4.90×10^{10}	1.50×10^{8}	5.62×10^{7}	2.03×10^{7}
21	1.24×10^{11}	3.82×10^{8}	1.08×10^{8}	4.26×10^{7}
22	5.78×10^{10}	1.90×10^{8}	7.24×10^{7}	1.90×10^{6}
23*	5.16×10^{10}	1.98×10^{10}	1.24×10^{10}	1.24×10^{10}
24*	6.15×10^{10}	1.82×10^{8}	1.13×10^{8}	1.24×10^{10}
Days Exposed	0	1	2	3
13"	8.23×10^{8}	6.15×10^{8}	3.02×10^{8}	3.23×10^{8}
14"	6.15×10^{8}	2.84×10^{8}	4.90×10^{8}	7.04×10^{8}
15"	6.15×10^{8}	7.04×10^{8}	8.23×10^{8}	9.90×10^{8}
16"	4.90×10^{8}	4.90×10^{8}	7.59×10^{8}	7.04×10^{8}
17"	8.99×10^{8}	7.04×10^{8}	1.10×10^{9}	1.24×10^{9}
18	3.17×10^{6}	1.70×10^{6}	1.27×10^{6}	2.12×10^{6}
19	6.69×10^{6}	3.35×10^{6}	3.17×10^{6}	4.00×10^{6}
20	3.77×10^{6}	4.43×10^{6}	4.43×10^{6}	9.00×10^{6}
21	6.14×10^{6}	6.81×10^{6}	2.17×10^{6}	1.68×10^{7}
22	8.09×10^{6}	1.68×10^{7}	1.68×10^{6}	2.84×10^{7}
23*	5.25×10^{8}	1.78×1010	2.49×1010	2.49×1010
24*	6.14×10^{8}	1.78×1010	2.49×1010	2.49×1010
Days Exposed	4	5	6	7

" Enclosed
* Control

TABLE 23

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 2
SPECIMEN TERMINAL BOARDS
DATA CALCULATED RESISTANCE-TIME

NO.	RESISTANCE IN OHMS			
13"	2.17 x 10^8	6.15 x 10^8	3.60 x 10^8	1.98 x 10^8
14"	4.90 x 10^8	7.04 x 10^8	7.04 x 10^8	4.90 x 10^8
15"	2.07 x 10^8	6.15 x 10^8	7.04 x 10^8	3.32 x 10^8
16"	7.04 x 10^8	8.23 x 10^8	6.15 x 10^8	4.90 x 10^8
17"	.99 x 10^8	1.42 x 10^9	1.24 x 10^9	8.32 x 10^8
18	1.63 x 10^6	1.00 x 10^6	2.33 x 10^6	1.24 x 10^6
19	3.54 x 10^6	5.25 x 10^6	7.33 x 10^6	6.14 x 10^6
20	5.24 x 10^6	6.35 x 10^6	9.42 x 10^6	8.62 x 10^6
21	3.17 x 10^6	4.68 x 10^6	6.62 x 10^6	7.33 x 10^6
22	2.40 x 10^7	2.28 x 10^7	4.44 x 10^7	3.12 x 10^7
23*	1.78 x 10^{10}	1.91 x 10^{10}	2.26 x 10^{10}	5.70 x 10^9
24*	2.07 x 10^{10}	2.07 x 10^{10}	2.07 x 10^{10}	6.15 x 10^9
Days Exposed	8	9	10	11
13"	1.42 x 10^8	1.37 x 10^8	1.42 x 10^8	5.94 x 10^7
14"	3.47 x 10^8	3.47 x 10^8	4.07 x 10^8	3.75 x 10^8
15"	1.62 x 10^8	2.53 x 10^8	2.40 x 10^8	2.53 x 10^8
16"	3.02 x 10^8	4.25 x 10^8	4.07 x 10^8	3.75 x 10^8
17"	4.20 x 10^8	5.16 x 10^8	6.15 x 10^8	5.46 x 10^8
18	2.33 x 10^6	1.38 x 10^6	1.50 x 10^6	8.52 x 10^5
19	9.00 x 10^6	2.75 x 10^6	4.56 x 10^6	4.56 x 10^6
20	1.04 x 10^7	5.25 x 10^6	5.50 x 10^6	5.41 x 10^6
21	6.81 x 10^6	2.91 x 10^6	4.68 x 10^6	6.50 x 10^6
22	1.22 x 10^7	1.37 x 10^7	1.82 x 10^7	2.79 x 10^6
23*	1.18 x 10^{10}	1.46 x 10^{10}	1.46 x 10^{10}	1.66 x 10^{10}
24*	1.18 x 10^{10}	6.21 x 10^9	1.55 x 10^{10}	1.66 x 10^{10}
Days Exposed	12	13	14	15

" Enclosed
* Control

TABLE 24

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TESTS 1 & 2
SPECIMEN TERMINAL BOARD
DATA AVERAGE OF THE LOG Rx - TIME

NO.	AVERAGE OF THE LOG Rx OF TEST 1							
1-5"	10.6024	9.4372	9.4244	8.4408	11.3672	9.0780	9.1126	8.5868
6-10	10.4036	8.3358	8.3766	7.5552	11.3636	6.9796	6.9090	6.2360
11-12*	10.5295	9.5210	9.2340	9.0765	11.2480	10.3170	10.0705	9.9560
Days Exposed	0	1	2	3	4	5	6	7
1-5"	8.7184	8.6982	8.7008	8.2128	8.2460	8.2886	8.2890	8.3776
6-10	6.6622	6.8244	6.1732	6.0664	7.2358	6.0730	5.7916	6.2610
11-12*	10.0445	10.4565	10.3985	10.1115	10.4850	10.3030	10.3600	10.2115
Days	8	9	10	11	12	13	14	15

NO.	AVERAGE OF THE LOG Rx OF TEST 2							
13-17"	10.7270	9.0400	9.1324	8.5354	8.8274	8.7468	8.8012	8.8588
18-22	10.8576	8.4528	7.7972	7.1064	6.6796	6.6118	6.3626	6.9120
23-24*	10.7510	9.2785	9.0730	10.0930	8.7540	10.2500	10.3960	10.3960
Days Exposed	0	1	2	3	4	5	6	7
13-17"	8.6374	8.8986	8.8268	8.6118	8.4144	8.4042	8.5082	8.4124
18-22	6.6832	6.7102	6.9578	6.8810	6.8514	6.5832	6.7024	6.5172
23-24*	10.2830	10.2985	10.3350	9.7755	10.0720	9.9785	10.1770	10.2200
Days Exposed	8	9	10	11	12	13	14	15

" Exposed
* Control
Rx Resistance

TABLE 25

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TESTS 1 & 2
SPECIMEN TERMINAL BOARD
DATA AVERAGE OF THE LOG Rx - TIME

AVERAGE OF THE LOG Rx OF TESTS 1 & 2

Enclosed	10.6647	8.2386	9.2784	8.5231	10.0973	8.9124	8.7569	8.7228
Exposed	10.6306	8.3943	8.0869	7.3300	9.0216	6.8357	6.6358	6.5740
Days Exposed	0	1	2	3	4	5	6	7

Enclosed	8.6779	8.7984	8.7638	8.4123	8.3302	8.3664	8.3986	8.3950
Exposed	6.6727	6.7673	6.5655	6.4737	7.0436	6.3781	6.2470	6.3891
Days Exposed	8	9	10	11	12	13	14	15

Rx Resistance

TABLE 26

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 1
SPECIMEN PHENOLITE
DATA RESISTANCE MEASUREMENTS-TIME

NO.	E	E_o	R_s	E	E_o	R_s	E	E_o	R_s	E	E_o	R_s
1"	0.5	250	10^9	0.6	250	10^8	1.6	250	10^8	1.6	250	10^8
2"	3.2	250	"	2.0	250	"	2.6	250	"	6.6	250	"
3"	1.3	250	"	5.4	250	"	2.2	250	"	2.6	100	"
4"	4.5	250		2.7	250	"	2.5	250	"	2.8	100	"
5"	0.5	250	"	0.4	250	"	1.3	250	"	2.4	250	"
6	1.7	250	"	3.0	100	"	2.8	100	"	2.6	25	"
7	3.3	250	"	0.8	250	"	5.1	100	"	3.8	10	"
8	5.2	250	"	3.8	100	"	3.2	100	"	2.0	25	"
9	3.2	250	"	5.5	100	"	1.5	250	"	1.9	25	"
10	0.5	250	"	3.6	250	"	0.4	250	"	1.6	25	"
11*	1.4	250	"	5.4	250	10^9	1.2	250	10^9	5.6	100	10^9
12*	1.7	250	"	4.8	250	"	4.5	250	"	7.4	100	"
Days Exposed		0			1			2			3	

NO.	E	E_o	R_s	E	E_o	R_s	E	E_o	R_s	E	E_o	R_s
1"	1.0	100	10^8	1.6	250	10^8	3.2	100	10^7	2.5	100	10^8
2"	7.0	250	"	3.6	250	"	2.2	100	"	4.2	100	"
3"	2.6	100	"	2.4	100	"	4.0	100	"	4.3	100	"
4"	2.4	250	"	4.8	100	"	1.8	100	"	4.8	100	"
5"	3.1	250	"	1.8	250	"	2.0	100	"	0.6	100	"
6	1.3	250	10^7	2.3	100	"	7.4	10	"	0.6	250	10^7
7	3.0	250	"	1.0	25	"	3.5	25	10^6	1.5	250	"
8	1.5	250	"	1.4	25	"	2.1	25	"	0.35	250	"
9	3.9	100	"	2.8	25	"	3.7	25	"	1.25	250	"
10	7.5	250	"	3.8	100	"	3.4	25	"	0.3	250	"
11*	2.8	100	10^9	2.0	250	"	2.0	25	10^9	1.0	100	10^8
12*	3.5	100	"	3.7	250	"	1.5	25	"	1.0	100	"
Days Exposed		4			5			6			7	

E - Volts
E_o - Volts
R_s - Ohms

" Enclosed
* Control

TABLE 26

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 1
SPECIMEN PHENOLITE
DATA RESISTANCE MEASUREMENTS-TIME

NO.	E	E_o	R_s	E	E_o	R_s	E	E_o	R_s	E	E_o	R_s
1"	2.3	100	10^8	2.3	250	10^8	0.2	100	10^8	3.6	100	10^8
2"	2.2	100	"	3.0	100	"	2.1	100	"	1.3	100	"
3"	4.4	100	"	3.2	100	"	1.6	100	"	3.8	100	"
4"	4.6	100	"	2.5	100	"	2.1	100	"	2.0	25	"
5"	2.2	100	"	2.2	100	"	0.6	100	"	4.3	100	"
6										5.9	25	10^7
7										3.0	25	"
8										4.8	100	"
9										4.3	100	"
10										6.0	100	"
11*										1.4	100	10^8
12*										1.0	100	"
Days Exposed		8			9			10			11	

NO.	E	E_o	R_s	E	E	R_s	E	E_o	R_s	E	E_o	R_s
1"	2.3	10	10^8	2.8	250	10^7	1.8	250	10^7	2.0	250	10^7
2"	2.0	10	"	1.4	250	"	0.25	250	"	1.2	250	"
3"	2.2	10	"	3.6	250	"	1.35	250	"	2.3	250	"
4"	2.0	25	"	4.2	250	10^8	0.8	250	"	2.4	250	"
5"	3.5	10	"	3.1	100	"	0.25	250	"	1.8	250	"
6				3.3	100	10^7				3.0	100	"
7				2.4	25	"				5.6	100	"
8				2.6	100	"				1.2	250	"
9				2.0	250	"				3.6	250	"
10				0.6	250	"				1.4	250	"
11*				0.5	250	10^8				1.8	250	10^8
12*				0.8	250	"				1.7	250	"
Days Exposed		12			13			14			15	

E - Volts
E_o - Volts
R_s - Ohms

" Enclosed
* Control

TABLE 27

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 2
SPECIMEN PHENOLITE
DATA RESISTANCE MEASUREMENTS-TIED

NO.	E	E_o	R_s	E	E_o	R_s	E	E_o	R_s	E	E_o	R_s
13"	0.6	250	10^9	3.8	100	10^9	3.8	25	10^9	4.8	100	10^8
14"	0.8	250	"	4.9	100	"	5.7	100	"	4.1	100	"
15"	0.7	250	"	1.6	100	"	5.8	100	"	2.3	100	"
16"	0.3	250	"	2.5	100	"	4.7	100	"	3.3	100	"
17"	0.3	250	"	2.5	100	"	3.3	25	"	5.4	100	"
18	1.1	250	"	3.7	10	"	5.5	10	"	6.4	10	"
19	0.9	250	"	1.4	25	"	3.2	10	"	4.5	10	"
20	1.0	250	"	3.1	100	"	1.1	10	"	1.1	25	"
21	0.5	250	"	4.1	100	"	1.0	10	"	1.0	25	"
22	0.4	250	"	2.5	100	"	1.5	25	"	2.6	25	"
23*	0.7	250	"	1.3	250	"	3.0	250	"	4.8	250	10^9
24*	1.4	250	"	4.0	250	"	2.7	100	"	4.4	100	"
Days Exposed		0			1			2			3	

NO.	E	E_o	R_s	E	E_o	R_s	E	E_o	R_s	E	E_o	R_s
13"	1.0	250	10^7	1.6	250	10^7	3.1	250	10^8	6.2	100	10^8
14"	0.8	250	"	2.4	250	"	3.6	250	"	2.7	100	"
15"	0.4	250	"	0.3	250	"	5.2	250	"	1.2	100	"
16"	0.3	250	"	0.9	250	"	1.4	250	"	1.0	100	"
17"	1.1	250	"	1.0	250	"	4.0	100	"	3.1	100	"
18	1.6	25	"	0.9	25	"				2.9	10	10^7
19	3.1	100	"	2.2	100	"				5.6	100	"
20	0.6	100	"	0.8	100	"				0.5	250	"
21	0.4	100	"	0.4	100	"				0.7	250	"
22	0.6	100	"	3.3	100	"				2.4	250	"
23*	2.5	250	10^9	2.5	250	10^9				1.1	250	10^9
24*	6.1	250	"	6.1	250	"				4.0	250	"
Days Exposed		4			5			6			7	

E - Volts
E_o - Volts
R_s - Ohms
" Enclosed
* Control

TABLE 27

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 2
SPECIMEN PHENOLITE
DATA RESISTANCE MEASUREMENTS-TIME

NO.	E	E_o	R_s	E	E_o	R_s	E	E_o	R_s	E	E_o	R_s
13"	2.3	100	10^8	1.8	25	10^8	3.1	100	10^8	6.8	100	10^8
14"	6.2	100	"	1.1	250	"	0.5	250	"	7.0	100	"
15"	1.6	100	"	1.7	250	"	2.0	250	"	7.0	100	"
16"	5.0	100	"	2.0	250	"	5.1	250	"	7.1	100	"
17"	3.4	100	"	3.8	100	"	2.5	250	"	2.2	25	"
18										2.8	10	10^7
19										3.2	250	"
20										3.2	100	"
21										5.4	250	"
22										3.0	250	"
23*										4.0	250	10^9
24*										4.2	100	"
Days Exposed		8			9			10			11	

NO.	E	E_o	R_s	E	E_o	R_s	E	E_o	R_s	E	E_o	R_s
13"	4.4	250	10^7	1.8	100	10^7	2.4	100	10^7	1.6	100	10^7
14"	7.4	250	"	5.0	250	"	2.3	100	"	4.5	250	"
15"	4.6	250	"	3.2	250	"	2.3	250	"	4.2	250	"
16"	4.4	250	"	3.4	250	"	1.8	250	"	3.9	250	"
17"	3.5	250	"	2.8	100	"	2.8	100	"	2.4	100	"
18				3.4	250	10^6				4.2	25	"
19				3.2	100	10^7				6.8	100	"
20				1.8	100	"				3.4	100	"
21				4.9	250	"				6.0	100	"
22				2.5	250	"				6.4	100	"
23*				5.1	250	10^9				4.5	250	10^9
24*				5.2	100	"				4.0	100	"
Days Exposed		12			13			14			15	

E - Volts
E_o - Volts
R_s - Ohms

" Enclosed
* Control

TABLE 20

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 1
SPECIMEN PHENOLITE
DATA CALCULATED RESISTANCE-TIME

NO.	RESISTANCE IN OHMS			
1"	4.09×10^{11}	4.16×10^{10}	1.55×10^{10}	1.55×10^{10}
2"	7.71×10^{10}	1.24×10^{10}	9.52×10^{9}	3.69×10^{9}
3"	1.91×10^{11}	4.53×10^{9}	1.13×10^{10}	3.75×10^{9}
4"	5.46×10^{10}	9.16×10^{9}	9.90×10^{9}	3.47×10^{9}
5"	4.99×10^{11}	6.24×10^{10}	1.91×10^{10}	1.03×10^{10}
6	1.46×10^{11}	3.23×10^{9}	3.47×10^{9}	8.62×10^{8}
7	7.46×10^{10}	3.12×10^{10}	1.06×10^{9}	1.63×10^{8}
8	4.71×10^{10}	6.46×10^{9}	3.23×10^{9}	1.15×10^{9}
9	7.71×10^{10}	1.72×10^{9}	1.66×10^{10}	1.22×10^{9}
10	4.99×10^{11}	6.84×10^{9}	6.24×10^{10}	1.46×10^{9}
11*	1.78×10^{11}	4.53×10^{10}	2.07×10^{11}	1.69×10^{10}
12*	1.46×10^{11}	5.11×10^{10}	5.46×10^{10}	1.25×10^{10}
Days Exposed	0	1	2	3
1"	9.90×10^{9}	1.55×10^{10}	3.02×10^{8}	4.25×10^{9}
2"	3.47×10^{9}	6.84×10^{9}	4.44×10^{8}	2.28×10^{9}
3"	3.75×10^{9}	4.07×10^{9}	2.40×10^{8}	2.22×10^{9}
4"	1.03×10^{10}	1.98×10^{9}	5.46×10^{8}	1.98×10^{9}
5"	7.96×10^{9}	1.38×10^{10}	4.90×10^{8}	1.66×10^{10}
6	1.91×10^{10}	4.25×10^{9}	3.51×10^{6}	4.16×10^{10}
7	8.23×10^{9}	2.40×10^{9}	6.14×10^{7}	1.66×10^{10}
8	1.66×10^{10}	1.68×10^{9}	1.08×10^{8}	7.13×10^{10}
9	2.46×10^{10}	7.93×10^{8}	5.76×10^{7}	1.99×10^{10}
10	3.23×10^{9}	2.53×10^{9}	6.35×10^{7}	8.32×10^{10}
11*	3.47×10^{10}	1.24×10^{10}	1.15×10^{10}	7.90×10^{9}
12*	2.76×10^{10}	6.66×10^{9}	1.57×10^{10}	9.90×10^{9}
Days Exposed	4	5	6	7

" Enclosed
* Control

TABLE 28

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 1
SPECIMEN PHENOLITE
DATA CALCULATED RESISTANCE-TIME

NO.	RESISTANCE IN OHMS			
1"	4.25×10^{9}	1.08×10^{10}	4.99×10^{10}	2.68×10^{9}
2"	4.44×10^{9}	3.23×10^{9}	4.66×10^{9}	7.59×10^{9}
3"	2.17×10^{9}	3.02×10^{9}	6.15×10^{9}	2.53×10^{9}
4"	2.07×10^{9}	3.90×10^{9}	4.66×10^{9}	1.15×10^{9}
5"	4.44×10^{9}	4.44×10^{9}	1.66×10^{10}	2.22×10^{9}
6				3.24×10^{8}
7				7.33×10^{7}
8				1.98×10^{8}
9				2.22×10^{8}
10				1.57×10^{8}
11*				7.04×10^{9}
12*				9.00×10^{9}
Days Exposed	8	9	10	11
1"	3.35×10^{8}	8.82×10^{8}	1.38×10^{8}	1.24×10^{9}
2"	4.00×10^{8}	1.78×10^{9}	9.90×10^{9}	2.07×10^{9}
3"	3.54×10^{8}	6.84×10^{8}	1.44×10^{9}	1.08×10^{9}
4"	1.15×10^{8}	5.85×10^{9}	3.12×10^{9}	1.03×10^{9}
5"	1.86×10^{8}	3.13×10^{9}	9.90×10^{9}	1.38×10^{9}
6		2.93×10^{8}		3.23×10^{8}
7		9.42×10^{7}		1.68×10^{8}
8		3.75×10^{8}		2.07×10^{9}
9		1.24×10^{9}		6.84×10^{8}
10		4.16×10^{9}		1.78×10^{9}
11*		4.99×10^{10}		1.38×10^{10}
12*		3.12×10^{10}		1.46×10^{10}
Days Exposed	12	13	14	15

" Enclosed
* Control

TABLE 29

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 2
SPECIMEN PHENOLITE
DATA CALCULATED RESISTANCE-TIME

NO.	RESISTANCE IN OHMS			
13"	4.16×10^{11}	2.53×10^{10}	5.58×10^{9}	1.98×10^{9}
14"	3.12×10^{11}	1.94×10^{10}	1.65×10^{10}	2.34×10^{9}
15"	3.56×10^{11}	6.15×10^{10}	1.62×10^{10}	4.25×10^{9}
16"	3.12×10^{11}	3.90×10^{10}	2.03×10^{10}	2.93×10^{9}
17"	8.32×10^{11}	3.40×10^{10}	6.58×10^{9}	1.75×10^{9}
18	2.26×10^{11}	1.70×10^{9}	5.38×10^{8}	5.62×10^{6}
19	2.77×10^{11}	1.69×10^{10}	2.12×10^{9}	1.22×10^{8}
20	2.49×10^{11}	3.12×10^{10}	8.09×10^{9}	2.17×10^{9}
21	4.99×10^{11}	2.34×10^{10}	9.00×10^{9}	2.40×10^{9}
22	6.24×10^{11}	3.90×10^{10}	1.57×10^{9}	5.94×10^{8}
23#	3.56×10^{11}	1.38×10^{11}	8.23×10^{10}	5.11×10^{10}
24*	1.78×10^{11}	6.15×10^{10}	9.16×10^{10}	2.17×10^{10}
Days Exposed	0	1	2	3
13"	2.49×10^{9}	1.55×10^{9}	7.96×10^{9}	1.51×10^{9}
14"	3.12×10^{9}	1.03×10^{9}	6.84×10^{9}	3.60×10^{9}
15"	6.24×10^{9}	8.32×10^{9}	4.71×10^{9}	8.23×10^{9}
16"	8.32×10^{9}	2.77×10^{9}	1.78×10^{10}	9.90×10^{9}
17"	2.26×10^{9}	2.49×10^{9}	2.40×10^{9}	3.12×10^{9}
18	1.46×10^{8}	2.68×10^{8}		2.45×10^{7}
19	3.13×10^{8}	4.44×10^{8}		1.68×10^{8}
20	1.66×10^{9}	1.24×10^{9}		5.00×10^{9}
21	2.49×10^{9}	2.49×10^{9}		3.56×10^{9}
22	1.66×10^{9}	2.93×10^{8}		1.03×10^{9}
23#	9.90×10^{10}	9.90×10^{10}		2.26×10^{11}
24*	4.00×10^{10}	4.00×10^{10}		6.15×10^{11}
Days Exposed	4	5	6	7

\# Enclosed
* Control

TABLE 29

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 2
SPECIMEN PHENOLITE
DATA CALCULATED RESISTANCE-TIME

NO.	RESISTANCE IN OHMS			
13"	4.25×10^9	1.29×10^9	3.13×10^9	1.37×10^9
14"	1.51×10^9	1.78×10^{10}	4.99×10^{10}	1.33×10^9
15"	6.15×10^9	1.46×10^{10}	1.24×10^{10}	1.33×10^9
16"	1.90×10^9	1.24×10^{10}	4.53×10^9	1.25×10^9
17"	2.84×10^9	2.53×10^9	9.90×10^9	1.04×10^9
18				2.57×10^7
19				7.71×10^8
20				3.02×10^8
21				4.53×10^8
22				8.23×10^8
23*				6.15×10^{10}
24*				2.28×10^{10}
Days Exposed	8	9	10	11
13"	5.58×10^8	5.46×10^8	4.07×10^8	6.15×10^8
14"	3.28×10^8	4.30×10^8	4.25×10^8	5.46×10^8
15"	5.33×10^8	7.71×10^8	1.08×10^9	5.85×10^8
16"	5.58×10^8	7.25×10^8	1.38×10^9	6.31×10^8
17"	7.04×10^8	3.47×10^8	3.47×10^8	4.07×10^8
18		7.25×10^7		4.95×10^7
19		3.02×10^7		1.37×10^8
20		5.46×10^7		2.84×10^8
21		5.00×10^7		1.57×10^8
22		9.00×10^7		1.46×10^8
23*		4.00×10^{10}		5.45×10^{10}
24*		1.02×10^{10}		2.40×10^{10}
Days Exposed	12	13	14	15

" Enclosed
* Control

TABLE 30

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TESTS 1 & 2
SPECIMEN PHENOLITE
DATA AVERAGE OF THE LOG Rx - TIME

NO.	AVERAGE OF THE LOG Rx OF TEST 1							
1-5"	11.2602	10.2250	10.0998	9.7768	9.8048	9.8144	8.5868	9.5698
6-10	11.0592	9.7772	9.8668	8.8918	10.0632	9.3070	7.5866	10.5822
11-12*	11.2070	10.6820	11.0265	10.1625	10.4905	9.9585	10.1285	9.9960
Days Exposed	0	1	2	3	4	5	6	7
1-5"	9.5154	9.6520	10.0086	9.4236	8.4014	9.2588	9.5798	9.1190
6-10				8.2430		8.7454		8.8270
11-12*				9.9220		10.5960		10.1520
Days Exposed	8	9	10	11	12	13	14	15

NO.	AVERAGE OF THE LOG Rx OF TEST 2							
13-17"	11.6156	10.5324	10.0602	9.4006	9.5918	9.3924	9.8078	9.6280
18-22	11.5372	10.1824	9.4230	8.4654	8.8992	8.8062		8.7754
23-24*	11.4005	10.9645	10.9385	10.5225	10.7990	10.7990		11.5715
Days Exposed	0	1	2	3	4	5	6	7
13-17"	9.6656	9.8042	9.9878	9.0298	8.7170	8.7428	8.7902	8.7406
18-22				8.4636		7.7460		8.1290
23-24*				10.5735		10.4705		10.5580
Days Exposed	8	9	10	11	12	13	14	15

" Exposed
* Control
Rx Resistance

TABLE 31

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TESTS 1 & 2
SPECIMEN PHENOLITE
DATA AVERAGE OF THE LOG Rx - TIME

AVERAGE OF THE LOG Rx OF TESTS 1 & 2

Enclosed	11.4379	10.3787	10.0800	9.5086	9.6983	9.6034	9.1973	9.5989
Exposed	11.2982	9.9798	9.6449	8.6286	9.4812	9.0566		9.6788
Days Exposed	0	1	2	3	4	5	6	7
Enclosed	9.4905	9.7261	9.9982	9.2617	8.5592	9.0008	9.1850	8.9298
Exposed				8.3563		8.2457		8.4780
Days Exposed	8	9	10	11	12	13	14	15

Rx Resistance

TABLE 32

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 1
SPECIMEN LUCITE
DATA RESISTANCE MEASUREMENTS-TIME

NO.	E	E_o	R_s	E	E_o	R_s	E	E_o	R_s	E	E_o	R_s
1	No Reading			No Reading			No Reading			No Reading		
2	"			"			"			"		
3*	"			"			"			"		
4*	"			"			"			"		
5	"			"			"			"		
6	"			"			"			"		
7	"			"			"			"		
Days Exposed	0			1			2			3		

NO.	E	E_o	R_s	E	E_o	R_s	E	E_o	R_s	E	E_o	R_s
1	No Reading			0.02	250	10^{12}	No Reading			No Reading		
2	"			No Reading			No Reading			No Reading		
3*	"			1.0	250	10^{10}	1.4	100	10^{12}	2.4	250	10^{10}
4*	"			0.03	250	10^{12}	0.05	250	10^{12}	0.05	250	10^{12}
5	"			No Reading			No Reading			No Reading		
6	"			"			"			"		
7	"			"			"			"		
Days Exposed	4			5			7			11		

E - Volts
E_o - Volts
R_s - Ohms

* Control

No Reading - Beyond Range of Instrument (10^{16} Ohms)

TABLE 32

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 1
SPECIMEN LUCITE
DIT. RESISTANCE MEASUREMENTS-TIME

NO.	E	E_o	R_s	E	E_o	R_s
1	No Reading			No Reading		
2	"			"		
3*	0.05	250	10^{11}	0.20	250	10^{12}
4*	No Reading			No Reading		
5	"			"		
6	"			"		
7	"			"		
Days Exposed	13			15		

E - Volts
E_o - Volts
R_s - Ohms

* Control

No Reading - Beyond Range of Instrument (10^{16} Ohms)

TABLE 33

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 2
SPECIMEN LUCITE
DATA RESISTANCE MEASUREMENTS-TIME

NO.	E	E_o	R_s	E	E_o	R_s	E	E_o	R_s	E	E_o	R_s
8	No Reading			No Reading			No Reading			0.8	100	10^{12}
9	"			"			"			0.5	25	"
10	"			"			"			0.7	100	"
11	"			"			"			0.1	100	"
12	"			"			"			0.8	100	10^{12}
13*	"			"			"			No Reading		
14*	"			"			"			"		
Days Exposed	0			1			2			3		

NO.	E	E_o	R_s	E	E_o	R_s	E	E_o	R_s	E	E_o	R_s
8	No Reading			No Reading			0.05	250	10^{12}	No Reading		
9	"			"			0.05	250	"	"		
10	"			"			0.05	250	"	"		
11	"			"			0.05	250	"	"		
12	"			"			0.05	250	"	"		
13*	"			"			No Reading			"		
14*	"			"			"			0.05	250	10^{12}
Days Exposed	4			5			7			11		

E - Volts
E_o - Volts
R_s - Ohms

* Control

No Reading - Beyond Range of Instrument (10^{16} Ohms)

TABLE 33

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 2
SPECIMEN LUCITE
DATA RESISTANCE MEASUREMENTS-TIME

NO.	E	E_o	R_s	E	E_o	R_s
8	0.05	250	10^{12}	0.05	250	10^{12}
9	0.95	250	"	1.9	250	"
10	0.95	250	"	1.4	250	"
11	1.00	100	"	0.5	25	"
12	0.75	10	"	0.7	25	"
13*	0.1	250	"	0.15	250	"
14*	0.1	250	"	0.4	250	10^{12}
Days Exposed		13			15	

E - Volts
E_o - Volts
R_s - Ohms

* Control

No Reading - Beyond Range of Instrument (10^{16} Ohms)

TABLE 34

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 1
SPECIMEN LUCITE
DATA CALCULATED RESISTANCE-TIME

NO.	RESISTANCE IN OHMS			
1	1.25×10^{16}	No Data	No Data	No Data
2	No Data	"	"	"
3*	2.49×10^{12}	7.04×10^{13}	1.03×10^{12}	5×10^{14}
4*	6.33×10^{15}	5×10^{15}	5×10^{15}	No Data
5	No Data	No Data	No Data	No Data
6	"	"	"	"
7	"	"	"	"
Days Exposed	5	7	11	13

1	No Data
2	"
3*	1.25×10^{15}
4*	No Data
5	"
6	"
7	"
Days Exposed	15

* Control

TABLE 35

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 2
SPECIMEN LUCITE
DATA CALCULATED RESISTANCE-TIME

NO.	RESISTANCE IN OHMS			
8	1.24×10^{14}	5×10^{15}	No Data	5×10^{15}
9	4.9×10^{13}	5×10^{15}	"	2.62×10^{14}
10	1.42×10^{14}	5×10^{15}	"	2.62×10^{14}
11	9.99×10^{14}	5×10^{15}	"	9.9×10^{13}
12	1.24×10^{14}	5×10^{15}	"	1.23×10^{13}
13*	No Data	No Data	"	2.5×10^{15}
14*	"	"	5×10^{15}	2.5×10^{15}
Days Exposed	3	7	11	13

8	5×10^{15}
9	1.31×10^{14}
10	1.78×10^{14}
11	4.9×10^{13}
12	3.47×10^{13}
13*	1.67×10^{15}
14*	6.24×10^{14}
Days Exposed	15

* Control

TABLE 36

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 1
SPECIMEN STEEL
DATA DIMENSIONS IN INCHES

NO.	LENGTH	WIDTH	THICKNESS	NO.	LENGTH	WIDTH	THICKNESS
X1"	3.9922	2.0000	0.060	X27	4.0000	2.0000	0.059
X2"	3.9844	2.0000	0.062	X28	3.9844	2.0000	0.061
X3"	3.9844	2.0000	0.063	X29	3.9844	2.0000	0.061
X4"	3.9844	2.0000	0.061	X30	3.9844	2.0000	0.061
X5"	3.9922	2.0000	0.061	X31	4.0000	2.0000	0.064
X6	3.9844	2.0000	0.061	X32	3.9844	2.0000	0.059
X7	3.9766	2.0000	0.061	X33	3.9844	2.0000	0.061
X8	3.9922	2.0000	0.061	X34	3.9844	2.0000	0.061
X9	3.9766	2.0000	0.061	X35	3.9844	2.0000	0.061
X10	4.0000	2.0000	0.064	X36	4.0000	2.0000	0.061
X11	3.9922	2.0000	0.062	X37	3.9844	2.0000	0.061
X12	3.9844	2.0000	0.061	X38	4.0000	2.0000	0.061
X13	3.9922	2.0156	0.061	X39	3.9844	2.0000	0.061
X14	4.0000	2.0000	0.061	X40	3.9844	2.0000	0.061
X15	3.9844	2.0000	0.062	X41	3.9844	2.0078	0.063
X16	3.9844	2.0000	0.063	X42	3.9844	2.0000	0.059
X17	3.9844	2.0000	0.061	X43	4.0000	2.0000	0.061
X18	3.9922	2.0000	0.062	X44	3.9844	2.0000	0.061
X19	4.0000	2.0000	0.061	X45	3.9844	2.0000	0.062
X20	3.9844	2.0000	0.061	X46	3.9844	2.0000	0.061
X21	3.9844	2.0000	0.061	X47	3.9922	2.0000	0.062
X22	3.9844	2.0000	0.060	X48	3.9844	2.0000	0.061
X23	3.9844	2.0000	0.063	X49	3.9922	2.0000	0.061
X24	4.0000	2.0000	0.064	X50	4.0000	2.0000	0.061
X25	3.9922	2.0000	0.060	X51*	3.9844	2.0000	0.060
X26	3.9844	2.0000	0.061	X52*	3.9922	2.0000	0.061

" Enclosed
* Control

TABLE 37

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 1
SPECIMEN STEEL
DATA WEIGHT-TIME

NO.	WEIGHT IN GRAMS INITIAL	FINAL	DAYS EXPOSED
X1"	61.0849		0
X2"	62.5510		
X3"	63.1394		
X4"	62.1932		
X5"	61.7883		
X6	61.7810	61.7604	1
X7	61.1424	61.1230	
X8	61.5245	61.5050	
X9	61.1520	61.1034	2
X10	64.7208	64.6800	
X11	62.6326	62.5960	
X12	61.5678	61.5213	3
X13	61.7393	61.6920	
X14	61.4346	61.4004	
X15	62.4134	62.3680	4
X16	63.3813	63.3385	
X17	61.7334	61.6940	
X18	63.1288	63.0820	5
X19	62.0608	62.0110	
X20	61.3275	61.2760	
X21	60.9908	60.9252	6
X22	60.6098	60.5250	
X23	63.6472	63.5494	
X24	64.6008	64.4848	7
X25	60.6943	60.5554	
X26	61.8810	61.8014	
X27	59.6600	59.6068	8
X28	62.1404	62.0614	
X29	61.8428	61.7453	
X30	61.4691	61.3544	9
X31	64.8918	64.8122	
X32	61.1030	61.0305	
X33	61.7808	61.7130	10
X34	61.5212	61.4528	
X35	61.3538	61.2972	
X36	61.5500	61.4898	11
X37	61.5494	61.4831	
X38	61.6263	61.5569	
X39	61.8102	61.7331	12
X40	61.8764	61.7710	
X41	63.5860	63.4827	
X42	60.6825	60.5534	13
X43	61.9425	61.8465	
X44	61.0070	60.9107	
X45	62.1616	62.0982	14
X46	61.1310	61.0714	
X47	62.0736	62.0082	
X48	61.5834	61.5034	15
X49	61.4402	61.3725	
X50	61.3410	61.2854	

" Enclosed

TABLE 38

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt2
PHASE I
TEST 1
SPECIMEN STEEL
DATA WEIGHT DECREASE-TIME

NO.	WEIGHT IN GRAMS WEIGHT DECREASE	DAYS EXPOSED	NO.	WEIGHT IN GRAMS WEIGHT DECREASE	DAYS EXPOSED
X6	0.0266	1	X30	0.1147	9
X7	0.0194		X31	0.0796	
X8	0.0195		X32	0.0725	
X9	0.0486	2	X33	0.0678	10
X10	0.0408		X34	0.0684	
X11	0.0366		X35	0.0566	
X12	0.0465	3	X36	0.0602	11
X13	0.0473		X37	0.0663	
X14	0.0342		X38	0.0694	
X15	0.0454	4	X39	0.0771	12
X16	0.0882		X40	0.0994	
X17	0.0394		X41	0.1033	
X18	0.0468	5	X42	0.1291	13
X19	0.0498		X43	0.0960	
X20	0.0495		X44	0.0963	
X21	0.0656	6	X45	0.1597	14
X22	0.0848		X46	0.0596	
X23	0.0978		X47	0.0654	
X24	0.1160	7	X48	0.0800	15
X25	0.1389		X49	0.0677	
X26	0.0796		X50	0.0556	
X27	0.0532	8			
X28	0.0790				
X29	0.1765				

TABLE 39

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 2
SPECIMEN STEEL
DATA DIMENSIONS IN INCHES

NO.	LENGTH	WIDTH	THICKNESS	NO.	LENGTH	WIDTH	THICKNESS
X53"	3.9844	2.0000	0.061	X79	3.9220	2.0000	0.062
X54"	3.9922	2.0000	0.061	X80	3.9220	2.0000	0.061
X55"	3.9922	2.0000	0.061	X81	4.0000	2.0000	0.062
X56"	3.9922	2.0000	0.061	X82	3.9844	2.0078	0.061
X57"	3.9922	2.0000	0.061	X83	3.9844	2.0000	0.060
X58	4.0000	2.0000	0.063	X84	3.9844	2.0000	0.061
X59	3.9844	2.0000	0.061	X85	4.0000	2.0000	0.064
X60	3.9844	2.0000	0.062	X86	3.9844	2.0000	0.061
X61	3.9844	2.0000	0.060	X87	4.0000	2.0000	0.064
X62	3.9844	2.0000	0.061	X88	3.9844	2.0000	0.060
X63	3.9922	2.0000	0.061	X89	4.0000	2.0000	0.064
X64	3.9922	2.0000	0.059	X90	3.9220	2.0000	0.061
X65	3.9844	2.0000	0.060	X91	3.9922	2.0000	0.062
X66	3.9844	2.0078	0.060	X92	3.9844	2.0000	0.061
X67	3.9844	2.0000	0.061	X93	3.9844	2.0000	0.061
X68	3.9922	2.0000	0.064	X94	4.0000	2.0000	0.062
X69	3.9844	2.0000	0.061	X95	3.9844	2.0000	0.061
X70	3.9844	2.0000	0.062	X96	x.9844	2.0000	0.060
X71	4.0000	2.0000	0.059	X97	3.9844	2.0000	0.061
X72	3.9844	2.0000	0.061	X98	3.9922	2.0234	0.060
X73	3.9844	2.0000	0.060	X99	4.0000	2.0000	0.061
X74	3.9922	2.0000	0.061	X100	3.9922	2.0000	0.063
X75	4.0000	2.0000	0.061	X101	3.9922	2.0000	0.062
X76	3.9922	2.0000	0.061	X102	3.9844	2.0000	0.061
X77	3.9844	2.0000	0.060	X103*	3.9922	2.0000	0.060
X78	4.0000	2.0000	0.064	X104*	3.9922	2.0000	0.062

" Enclosed
* Control

TABLE 40

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 2
SPECIMEN STEEL
DATA WEIGHT-TIME

NO.	WEIGHT IN GRAMS INITIAL	FINAL	DAYS EXPOSED	NO.	WEIGHT IN GRAMS INITIAL	FINAL	DAYS EXPOSED
X53"	60.9331		0	X79	62.6878	62.6553	8
X54"	64.5370			X80	61.4328	61.4083	
X55"	62.1752			X81	62.5942	62.5675	
X56"	61.4980						
X57"	62.2105			X82	61.8164	61.7888	9
				X83	60.8825	60.8446	
X58	64.4775	64.4682	1	X84	61.9324	61.9027	
X59	61.3473	61.3346					
X60	63.0124	63.0017		X85	64.4134	64.3982	10
				X86	61.5940	61.5735	
X61	60.7754	60.7560	2	X87	64.5534	64.5224	
X62	61.5896	61.5713					
X63	61.9152	61.8961		X88	60.9991	60.9581	11
				X89	64.4763	64.4394	
X64	59.9518	59.9340	3	X90	61.8836	61.8506	
X65	60.6035	60.5863					
X66	61.1974	61.1722		X91	63.2445	63.2078	12
				X92	61.8414	61.7950	
X67	61.7006	61.6804	4	X93	61.7173	61.6788	
X68	64.8442	64.8256					
X69	61.4860	61.4648		X94	63.5708	63.5478	13
				X95	61.3610	61.3430	
X70	62.2364	62.2174	5	X96	60.7164	60.7002	
X71	59.7268	59.7054					
X72	61.1216	61.0786		X97	62.0354	62.0062	14
				X98	61.9712	61.9442	
X73	61.1050	61.0548	6	X99	61.6377	61.6088	
X74	62.1671	62.1198					
X75	61.4181	61.3726		X100	63.8077	63.7854	15
				X101	63.1276	63.0934	
X76	61.6094	61.5714	7	X102	61.7130	61.6857	
X77	61.0685	61.0361					
X78	64.8137	64.7788					

" Enclosed

TABLE 41

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 2
SPECIMEN STEEL
DATA WEIGHT DECREASE-TIME

NO.	WEIGHT IN GRAMS WEIGHT DECREASE	DAYS EXPOSED	NO.	WEIGHT IN GRAMS WEIGHT DECREASE	DAYS EXPOSED
X58	0.0093	1	X82	0.0276	9
X59	0.0127		X83	0.0379	
X60	0.0107		X84	0.0297	
X61	0.0194	2	X85	0.0152	10
X62	0.0183		X86	0.0205	
X63	0.0191		X87	0.0310	
X64	0.0178	3	X88	0.0410	11
X65	0.0172		X89	0.0374	
X66	0.0252		X90	0.0530	
X67	0.0202	4	X91	0.0367	12
X68	0.0136		X92	0.0464	
X69	0.0404		X93	0.0385	
X70	0.0190	5	X94	0.0230	13
X71	0.0403		X95	0.0180	
X72	0.0430		X96	0.0162	
X73	0.0502	6	X97	0.0292	14
X74	0.0493		X98	0.0271	
X75	0.0455		X99	0.0284	
X76	0.0380	7	X100	0.0223	15
X77	0.0324		X101	0.0342	
X78	0.0349		X102	0.0273	
X79	0.0325	8			
X80	0.0245				
X81	0.0267				

TABLE 42

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 1 & 2
SPECIMEN STEEL
DATA WEIGHT DECREASE CALCULATIONS-TIME

DAYS EXPOSED	WT. IN GRAMS AV. WT. DEC. (a)	GRAMS/DAY AV. WT. DEC./DAY (b)
1	0.0164	0.0164
2	0.0305	0.0152
3	0.0314	0.0105
4	0.0421	0.0105
5	0.0414	0.0083
6	0.0655	0.0109
7	0.0735	0.0105
8	0.0654	0.0082
9	0.0603	0.0067
10	0.0433	0.0043
11	0.0546	0.0049
12	0.0669	0.0056
13	0.0632	0.0049
14	0.0617	0.0044
15	0.0479	0.0032

(a) Average weight decrease of tests 1 & 2

(b) Average rate = a/days exposed

TABLE 43

CORRELATION OF TEMPERATURE-HUMIDITY TESTS

WADC TR 53-107 Pt 2
PHASE I
TEST 1
SPECIMEN ZINC COATED STEEL
DATA DIMENSIONS IN INCHES

NO.	LENGTH	WIDTH	THICKNESS
1	3.9922	2.0000	0.064
2	3.9922	2.0000	0.063
3	3.9766	2.0000	0.063
4	3.9844	2.0000	0.063
5	3.9922	2.0000	0.064
6	3.9922	2.0000	0.064
7	4.0156	2.0000	0.063
8	3.9688	2.0000	0.063
9	3.9766	2.0000	0.064
10	3.9688	2.0000	0.063
11	3.9922	2.0000	0.064
12	3.9688	2.0000	0.063
13	3.9922	2.0000	0.064
14	3.9844	2.0000	0.064
15	3.9922	2.0000	0.064
16	3.9922	2.0000	0.064
17	3.9922	2.0000	0.063
18	3.9922	1.9922	0.064
19	3.9922	2.0000	0.064
20	3.9844	2.0000	0.062
21	3.9844	2.0000	0.062
22*	3.9844	2.0000	0.063
23*	4.0234	2.0000	0.063

WADC TR 53-107 Pt 2
PHASE I
TEST 2
SPECIMEN ZINC COATED STEEL
DATA DIMENSIONS IN INCHES

NO.	LENGTH	WIDTH	THICKNESS
24	3.9844	2.0000	0.062
25	4.0000	2.0000	0.063
26	3.9844	2.0000	0.062
27	3.9844	2.0000	0.061
28	4.0000	2.0000	0.064
29	3.9844	2.0078	0.063
30	3.9844	2.0000	0.062
31	4.0000	2.0000	0.063
32	3.9922	2.0000	0.062
33	3.9922	2.0000	0.063
34	3.9844	2.0000	0.062
35	3.9844	2.0000	0.062
36	3.9922	2.0000	0.063
37	3.9844	2.0000	0.063
38	3.9922	2.0000	0.064
39	3.9844	2.0000	0.062
40	4.0000	2.0000	0.064
41	3.9844	2.0000	0.062
42	3.9922	2.0078	0.064
43	3.9922	2.0078	0.064
44	3.9922	2.0000	0.062
45*	3.9844	2.0000	0.062
46*	3.9844	2.0078	0.062

* Control

TABLE 44

CORRELATION OF TEMPERATURE-HUMIDITY TESTS

WADC TR 53-107 Pt 2
PHASE I
TEST 1
SPECIMEN ZINC COATED STEEL
DATA WEIGHT-TIME

NO.	WEIGHT IN GRAMS INITIAL	FINAL-1	DAYS EXPOSED
1	64.6522	64.6480	3
2	63.6856	63.6814	
3	62.8789	62.8775	
4	62.9337	62.9318	5
5	64.6191	64.6188	
6	64.8870	64.8829	
7	63.9650	63.9620	7
8	62.9781	62.9752	
9	63.8191	63.8176	
10	63.1110	63.1092	9
11	63.2232	63.2176	
12	64.2832	64.2817	
13	64.3478	64.3474	11
14	64.5207	64.5185	
15	64.3532	64.3527	
16	64.3845	64.3820	13
17	63.9346	63.9314	
18	64.2391	64.2320	
19	64.5269	64.5196	15
20	62.4555	62.4520	
21	62.0425	62.0393	

WADC TR 53-107 Pt 2
PHASE I
TEST 2
SPECIMEN ZINC COATED STEEL
DATA WEIGHT-TIME

NO.	WEIGHT IN GRAMS INITIAL	FINAL-2	DAYS EXPOSED
24	62.2693	62.2702	3
25	63.7338	62.7350	
26	62.8162	62.8173	
27	61.3120	61.3134	5
28	64.5246	64.5264	
29	63.4916	63.4930	
30	62.4382	62.4394	7
31	63.3088	63.3111	
32	62.3222	62.3228	
33	63.6808	63.6816	9
34	62.4745	62.4755	
35	62.4200	62.4204	
36	64.0525	64.0552	11
37	63.1072	63.1098	
38	64.7353	64.7378	
39	62.7154	62.7194	13
40	64.6148	64.6171	
41	62.5431	62.5450	
42	64.4030	64.5050	15
43	64.5980	64.6008	
44	62.0465	62.0494	

1 - Cleaned - Weight Decrease
2 - Not Cleaned - Weight Increase

TABLE 45

CORRELATION OF TEMPERATURE-HUMIDITY TESTS

WADC TR 53-107 Pt 2
PHASE I
TEST 1
SPECIMEN ZINC COATED STEEL
DATA WEIGHT DECREASE-TIME

NO.	WEIGHT IN GRAMS WEIGHT DECREASE	DAYS EXPOSED
1	0.0042	3
2	0.0042	
3	0.0014	
4	0.0019	5
5	0.0030	
6	0.0041	
7	0.0030	7
8	0.0029	
9	0.0015	
10	0.0018	9
11	0.0056	
12	0.0015	
13	0.0004	11
14	0.0022	
15	0.0005	
16	0.0025	13
17	0.0032	
18	0.0071	
19	0.0073	15
20	0.0035	
21	0.0032	

WADC TR 53-107 Pt 2
PHASE I
TEST 2
SPECIMEN ZINC COATED STEEL
DATA WEIGHT DECREASE-TIME

NO.	WEIGHT IN GRAMS WEIGHT DECREASE	DAYS EXPOSED
24	0.0009	3
25	0.0012	
26	0.0011	
27	0.0014	5
28	0.0018	
29	0.0014	
30	0.0012	7
31	0.0023	
32	0.0006	
33	0.0008	9
34	0.0010	
35	0.0004	
36	0.0027	11
37	0.0026	
38	0.0025	
39	0.0040	13
40	0.0023	
41	0.0019	
42	0.0020	15
43	0.0028	
44	0.0029	

TABLE 46

CORRELATION OF TEMPERATURE-HUMIDITY TESTS

WADC TR 53-107 Pt 2
PHASE I
TEST 1
SPECIMEN ALUMINUM 24S
DATA DIMENSIONS IN INCHES

NO.	LENGTH	WIDTH	THICKNESS
21	4.0000	2.0078	0.064
22	4.0000	2.0078	0.065
23	4.0000	2.0156	0.065
24	4.0000	2.0078	0.065
25	4.0000	2.0156	0.065
26	4.0000	2.0156	0.064
27	4.0000	2.0156	0.065
28	4.0000	2.0156	0.065
29	4.0156	2.0078	0.063
210	4.0000	2.0156	0.065
211	4.0000	2.0078	0.065
212	4.0000	2.0156	0.064
213	4.0000	2.0156	0.065
214	4.0000	2.0156	0.065
215	4.0078	2.0156	0.065
216	4.0000	2.0156	0.065
217	4.0000	2.0078	0.065
218	4.0000	2.0156	0.065
219	4.0078	2.0234	0.064
220	4.0000	2.0156	0.065
221*	3.9922	2.0156	0.064
222*	4.0000	2.0156	0.065
223	4.0078	2.0234	0.064

WADC TR 53-107 Pt 2
PHASE I
TEST 2
SPECIMEN ALUMINUM 24S
DATA DIMENSIONS IN INCHES

NO.	LENGTH	WIDTH	THICKNESS
224	4.0000	2.0156	0.065
225	4.0000	2.0156	0.064
226	4.0000	2.0156	0.066
227	4.0000	2.0156	0.065
228	4.0156	2.0156	0.064
229	4.0000	2.0156	0.065
230	4.0078	2.0156	0.065
231	4.0078	2.0156	0.064
232	4.0000	2.0156	0.065
233	4.0000	2.0078	0.065
234	3.9844	2.0078	0.065
235	4.0000	2.0156	0.065
236	4.0000	2.0156	0.065
237	4.0000	2.0156	0.064
238	4.0078	2.0078	0.064
239	4.0078	2.0156	0.064
240	4.0078	2.0156	0.064
241	3.9922	2.0078	0.065
242	4.0000	2.0156	0.065
243	4.0000	2.0156	0.065
244	4.0000	2.0156	0.065
245*	3.9766	2.0078	0.064
246*	4.0000	2.0156	0.065

* Control

TABLE 47

CORRELATION OF TEMPERATURE-HUMIDITY TESTS

WADC TR 53-107 Pt 2
PHASE I
TEST 1
SPECIMEN ALUMINUM 24S
DATA WEIGHT-TIME

NO.	WEIGHT IN GRAMS INITIAL	FINAL	DAYS EXPOSED
21	23.2130	23.2154	3
22	23.3736	23.3767	
23	23.4069	23.4114	
24	23.4334	23.4434	5
25	23.4919	23.4960	
26	23.3068	23.3108	
27	23.5432	23.5503	7
28	23.5900	23.6081	
29	23.0065	23.0156	
210	23.4760	23.4812	9
211	23.2708	23.2754	
212	23.3139	23.3182	
213	23.3931	23.4021	11
214	23.5490	23.5570	
215	23.3836	23.3904	
216	23.6236	23.6316	13
217	23.4825	23.4922	
218	23.5671	23.5782	
219	23.2868	23.2904	15
220	23.4517	23.4554	
223	23.1585	23.1594	

WADC TR 53-107 Pt 2
PHASE I
TEST 2
SPECIMEN ALUMINUM 24S
DATA WEIGHT-TIME

NO.	WEIGHT IN GRAMS INITIAL	FINAL	DAYS EXPOSED
224	23.3643	23.3741	3
225	23.1218	23.1338	
226	22.8502	22.8720	
227	23.6142	23.6266	5
228	23.3006	23.3176	
229	23.5620	23.5704	
230	23.4448	23.4496	7
231	23.1280	23.1320	
232	23.3385	23.3418	
233	23.2990	23.3133	9
234	22.6266	22.6393	
235	23.4092	23.4262	
236	23.2852	23.2884	11
237	23.2484	23.2512	
238	23.2642	23.2670	
239	23.0951	23.0980	13
240	23.2177	23.2206	
241	23.3432	23.3450	
242	23.5350	23.5973	15
243	23.4774	23.4789	
244	23.4302	23.4322	

TABLE 40

CORRELATION OF TEMPERATURE-HUMIDITY TESTS

WADC TR 53-107 Pt 2
PHASE I
TEST 1
SPECIMEN ALUMINUM 24S
DATA WEIGHT INCREASE-TIME

NO.	WEIGHT IN GRAMS WEIGHT INCREASE	DAYS EXPOSED
21	0.0024	3
22	0.0031	
23	0.0025	
24	0.0100	5
25	0.0041	
26	0.0040	
27	0.0071	7
28	0.0091	
29	0.0091	
210	0.0143	9
211	0.0046	
212	0.0043	
213	0.0090	11
214	0.0060	
215	0.0098	
216	0.0102	13
217	0.0097	
218	0.0111	
219	0.0036	15
220	0.0037	
223	0.0009	

WADC TR 53-107 Pt 2
PHASE I
TEST 2
SPECIMEN ALUMINUM 24S
DATA WEIGHT INCREASE-TIME

NO.	WEIGHT IN GRAMS WEIGHT INCREASE	DAYS EXPOSED
224	0.0098	3
225	0.0120	
226	0.0118	
227	0.0124	5
228	0.0090	
229	0.0084	
230	0.0046	7
231	0.0040	
232	0.0033	
233	0.0143	9
234	0.0127	
235	0.0170	
236	0.0032	11
237	0.0028	
238	0.0026	
239	0.0029	13
240	0.0029	
241	0.0026	
242	0.0023	15
243	0.0015	
244	0.0020	

TABLE 49

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 1 & 2
SPECIMEN ALUMINUM 24S
DATA WEIGHT INCREASE CALCULATIONS-TIME

DAYS EXPOSED	WT. IN GRAMS AV. WT. INC. (a)	GRAMS/DAY AV. WT. INC./DAY (b)
1		
3	0.0069	0.0023
5	0.0080	0.0016
7	0.0061	0.00087
9	0.0112	0.0012
11	0.0059	0.00054
13	0.0066	0.00051
15	0.0023	0.00015

(a) Average weight increase of tests 1 & 2

(b) Average rate = (a)/days exposed

TABLE 50

CORRELATION OF TEMPERATURE-HUMIDITY TESTS

WADC TR 53-107 Pt 2
PHASE I
TEST 1
SPECIMEN ALUMINUM 52S
DATA DIMENSIONS IN INCHES

NO.	LENGTH	WIDTH	THICKNESS
51	4.0000	2.0156	0.065
52	4.0078	2.0156	0.065
53	3.9610	2.0078	0.065
54	3.9610	2.0156	0.065
55	3.9610	2.0156	0.064
56	4.0000	2.0156	0.065
57	4.0000	2.0078	0.065
58	4.0234	2.0156	0.064
59	4.0312	2.0156	0.064
510	3.9922	2.0156	0.065
511	4.0000	2.0000	0.064
512	3.9922	2.0078	0.066
513	4.0000	2.0156	0.064
514	4.0000	2.0078	0.065
515	3.9844	2.0312	0.064
516	3.9844	2.0156	0.065
517	3.9610	2.0078	0.064
518	4.0000	2.0078	0.064
519	3.9844	2.0078	0.065
520	3.9688	2.0078	0.065
521	4.0078	2.0078	0.065
522*	4.0000	2.0078	0.065
523*	4.0000	2.0156	0.065

WADC TR 53-107 Pt 2
PHASE I
TEST 2
SPECIMEN ALUMINUM 52S
DATA DIMENSIONS IN INCHES

NO.	LENGTH	WIDTH	THICKNESS
524	4.0078	2.0078	0.065
525	3.9922	2.0078	0.065
526	3.9922	2.0156	0.065
527	4.0000	2.0156	0.065
528	3.9766	2.0078	0.065
529	3.9844	2.0156	0.065
530	3.9844	2.0156	0.065
531	4.0234	2.0078	0.064
532	3.9766	2.0156	0.065
533	4.0078	2.0156	0.065
534	4.0078	2.0000	0.065
535	4.0078	2.0078	0.065
536	3.9766	2.0078	0.065
537	4.0000	2.0078	0.065
538	4.0000	2.0156	0.065
539	4.0000	2.0156	0.064
540	4.0000	2.0156	0.065
541	4.0078	2.0078	0.065
542	3.9922	2.0156	0.065
543	4.0000	2.0078	0.064
544	4.0000	2.0156	0.065
545*	3.9844	2.0156	0.065
546*	4.0000	2.0078	0.065

* Control

TABLE 51

CORRELATION OF TEMPERATURE-HUMIDITY TESTS

WADC TR 53-107 Pt 2
PHASE I
TEST 1
SPECIMEN ALUMINUM 52S
DATA WEIGHT-TIME

NO.	WEIGHT IN GRAMS INITIAL	FINAL	DAYS EXPOSED
51	22.7471	22.7575	3
52	22.8235	22.8290	
53	22.3415	22.3480	
54	22.4970	22.5100	5
55	22.1948	22.2100	
56	22.7067	22.7189	
57	22.4738	22.4900	7
58	22.5236	22.5463	
59	22.6024	22.6202	
510	22.8622	22.8658	9
511	22.3032	22.3092	
512	22.7263	22.7426	
513	22.2698	22.2890	11
514	22.9042	22.9116	
515	22.3770	22.3842	
516	22.6285	22.6364	13
517	21.9434	21.9612	
518	22.2108	22.2337	
519	22.6352	22.6902	15
520	22.3908	22.4096	
521	22.5084	22.5155	

WADC TR 53-107 Pt 2
PHASE I
TEST 2
SPECIMEN ALUMINUM 52S
DATA WEIGHT-TIME

NO.	WEIGHT IN GRAMS INITIAL	FINAL	DAYS EXPOSED
524	22.7816	22.7944	3
525	22.5857	22.5907	
526	22.5632	22.5734	
527	22.8950	22.9006	5
528	22.4013	22.4049	
529	22.6383	22.6434	
530	22.6242	22.6461	7
531	22.3790	22.3824	
532	22.5910	22.5936	
533	22.7368	22.7522	9
534	22.5925	22.6066	
535	22.5452	22.5576	
536	22.5025	22.5862	11
537	22.7201	22.7226	
538	22.5864	22.5900	
539	22.3375	22.3393	13
540	22.5160	22.5182	
541	22.5758	22.5774	
542	22.7760	22.7760	15
543	22.2749	22.2758	
544	22.5407	22.5418	

TABLE 52

CORRELATION OF TEMPERATURE-HUMIDITY TESTS

WADC TR 53-107 Pt 2
PHASE I
TEST 1
SPECIMEN ALUMINUM 52S
DATA WEIGHT INCREASE-TIME

NO.	WEIGHT IN GRAMS WEIGHT INCREASE	DAYS EXPOSED
51	0.0104	3
52	0.0055	
53	0.0065	
54	0.0130	5
55	0.0152	
56	0.0113	
57	0.0162	7
58	0.0227	
59	0.0170	
510	0.0036	9
511	0.0060	
51[illegible]	0.0163	
513	0.0102	11
514	0.0074	
515	0.0072	
516	0.0079	13
517	0.0178	
518	0.0229	
519	0.0050	15
520	0.0098	
521	0.0066	

WADC TR 53-107 Pt 2
PHASE I
TEST 2
SPECIMEN ALUMINUM 52S
DATA WEIGHT INCREASE-TIME

NO.	WEIGHT IN GRAMS WEIGHT INCREASE	DAYS EXPOSED
524	0.0128	3
525	0.0130	
526	0.0102	
527	0.0056	5
528	0.0036	
529	0.0051	
530	0.0019	7
531	0.0026	
532	0.0026	
533	0.0154	9
534	0.0141	
535	0.0124	
536	0.0037	
537	0.0025	
538	0.0014	
539	0.0018	13
540	0.0022	
541	0.0016	
542	0.0000	15
543	0.0009	
544	0.0011	

TABLE 53

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 1 & 2
SPECIMEN ALUMINUM 52S
DATA WEIGHT INCREASE CALCULATIONS-TIME

DAYS EXPOSED	WT. IN GRAMS AV. WT. INC. (a)	GRAMS/DAY AV. WT. INC./DAY (b)
1		
3	0.0097	0.0032
5	0.0090	0.0018
7	0.0106	0.0015
9	0.0113	0.0013
11	0.0059	0.00054
13	0.0090	0.00069
15	0.0039	0.00026

(a) Average weight increase of tests 1 & 2

(b) Average rate = (a)/days exposed

TABLE 54

CORRELATION OF TEMPERATURE-HUMIDITY TESTS

WADC TR 53-107 Pt 2
PHASE I
TEST 1
SPECIMEN ALUMINUM 52S BOLTED
DATA WEIGHT-TIME

NO.	WEIGHT IN GRAMS INITIAL	FINAL	DAYS EXPOSED
1"	63.3310		0
2"	62.7588		
3"	62.5906		
4"	63.2778		
5"	62.7242		
8	62.8283	62.8420	3
9	62.6310	62.6503	
10	62.8782	62.9004	
11	62.0609	62.0913	5
12	62.1790	62.2142	
13	62.8420	62.8718	
14	62.9253	62.9642	7
15	62.9600	62.9891	
16	63.3920	63.4213	
17	62.5600	62.5978	9
18	62.9718	62.9954	
19	62.3470	62.3744	
20	62.7284	62.7735	11
21	63.4219	63.4502	
22	62.6942	62.7437	
23	63.0314	63.0926	13
24	62.8633	62.9083	
25	61.8036	61.8577	
26	62.3330	62.3720	15
27	62.6173	62.6513	
28	62.0512	62.6515	

WADC TR 53-107 Pt 2
PHASE I
TEST 2
SPECIMEN ALUMINUM 52S BOLTED
DATA WEIGHT-TIME

NO.	WEIGHT IN GRAMS INITIAL	FINAL	DAYS EXPOSED
29"	62.6725		0
30"	63.0950		
31"	64.2048		
32"	62.9863		
33"	62.9324		
34	62.7736	62.8050	3
35	63.4022	63.4328	
36	63.5354	63.5720	
37	63.4560	63.4898	5
38	62.0719	62.1072	
39	62.4154	62.4520	
40	63.3373	63.3702	7
41	63.1654	63.1994	
42	62.2352	62.2802	
43	62.9444	62.9807	9
44	62.7300	62.7671	
45	62.0129	62.0526	
46	63.1723	63.2166	11
47	62.3099	62.3542	
48	62.8021	62.8446	
49	62.5564	62.5964	13
50	61.5461	61.5966	
51	63.3141	63.3520	
52	63.1434	63.1852	15
53	62.6755	62.7169	
54	63.5166	63.5664	

" Enclosed

TABLE 55

CORRELATION OF TEMPERATURE-HUMIDITY TESTS

WADC TR 53-107 Pt 2
PHASE I
TEST 1
SPECIMEN ALUMINUM 52S BOLTED
DATA WEIGHT INCREASE-TIME

NO.	WEIGHT IN GRAMS WEIGHT INCREASE	DAYS EXPOSED
8	0.0137	3
9	0.0193	
10	0.0222	
11	0.0304	5
12	0.0352	
13	0.0298	
14	0.0309	7
15	0.0291	
16	0.0293	
17	0.0273	9
18	0.0236	
19	0.0274	
20	0.0451	11
21	0.0233	
22	0.0495	
23	0.0612	13
24	0.0450	
25	0.0541	
26	0.0390	15
27	0.0340	
28	0.0303	

WADC TR 53-107 Pt 2
PHASE I
TEST 2
SPECIMEN ALUMINUM 52S BOLTED
DATA WEIGHT INCREASE-TIME

NO.	WEIGHT IN GRAMS WEIGHT INCREASE	DAYS EXPOSED
34	0.0314	3
35	0.0306	
36	0.0366	
37	0.0338	5
38	0.0353	
39	0.0366	
40	0.0329	7
41	0.0340	
42	0.0450	
43	0.0443	9
44	0.0371	
45	0.0397	
46	0.0443	11
47	0.0443	
48	0.0425	
49	0.0400	13
50	0.0502	
51	0.0379	
52	0.0416	15
53	0.0414	
54	0.0498	

TABLE 56

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TEST 1 & 2
SPECIMEN ALUMINUM 52S BOLTED
DATA WEIGHT INCREASE CALCULATIONS-TIME

DAYS EXPOSED	WT. IN GRAMS AV. WT. INC. (a)	GRAMS/DAY AV. WT. INC./DAY (b)
1		
3	0.0256	0.0035
5	0.0335	0.0067
7	0.0349	0.0050
9	0.0333	0.0037
11	0.0323	0.0030
13	0.0431	0.0037
15	0.0414	0.0028

(a) Average weight increase of tests 1 & 2

(b) Average rate = (a)/days exposed

TABLE 57

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TESTS 1 & 2
SPECIMEN CONTROLS
DATA MAXIMUM WEIGHT INCREASE

WEIGHT IN GRAMS

Terminal Board	0.0282
Phenolite	0.0660
Lucite	0.0597
Steel	0.0015
Steel Zinc	0.0014
AL24S	0.0019
AL 52S	0.0012
AL52S BOLTED	0.0070

TABLE 58

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TESTS 1 & 2
SPECIMEN PLASTICS
DATA SUMMARY OF MAXIMUM VALUES OF PER CENT WEIGHT INCREASE AND LOG RESISTANCE

	PER CENT WEIGHT INCREASE		
SPECIMEN	10 Days	15 Days	GRAPH
Terminal Board Exposed	2.80	3.20	Fig. 2
Terminal Board Enclosed	1.05	1.25	Fig. 3
Phenolite Exposed	3.85	4.35	Fig. 4
Phenolite Enclosed	1.85	2.10	Fig. 5
Lucite Exposed	1.25	1.25	Fig. 6

	LOG OF THE RESISTANCE			
SPECIMEN	0 Days	10 Days	15 Days	GRAPH
Terminal Board Exposed	10.65	6.60	6.30	Fig. 7
Terminal Board Enclosed	10.62	8.55	8.20	Fig. 8
Phenolite Exposed	10.30	8.75	8.25	Fig. 9
Phenolite Enclosed	11.20	9.30	9.00	Fig. 10

TABLE 59

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TESTS 1 & 2
SPECIMEN METALS
DATA SUMMARY - AVERAGE RATE AND AVERAGE WEIGHT CHANGE

SPECIMEN	DAYS EXPOSED	AVERAGE RATE (a)	AVERAGE WEIGHT CHANGE (b)	GRAPH
Steel	0	0.019	0	Fig. 11
	5	0.011	0.055	
	10	0.0056	0.056	
	15	0.0038	0.057	
Al 24S	0	0.0034	0	Fig. 12
	5	0.0016	0.0080	
	10	0.0008	0.0080	
	15	0.00018	0.0027	
Al 52S	0	0.0048	0	Fig. 13
	5	0.0021	0.0105	
	10	0.00084	0.0084	
	15	0.00035	0.0043	
Al 52S Bolted	0	0.013	0	Fig. 14
	5	0.0064	0.032	
	10	0.0038	0.038	
	15	0.0031	0.047	

Average Rate (a) Steel - grams decrease/day

Others - grams increase/day

Average Weight Decrease (b) = Average Rate (a) x Days Exposed

Steel - grams decrease

Others - grams increase

TABLE 60

CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TESTS 1 & 2
SPECIMEN METALS
DATA MEAN VALUES OF AVERAGE RATES OF CORROSION

SPECIMEN	MEAN VALUE OF AVERAGE RATE	GRAPH
Steel	0.0077	Fig. 11
Al 24S	0.00103	Fig. 12
Al 52S	0.00132	Fig. 13
Al 52S Bolted	0.0052	Fig. 14

Average Rate Steel - grams decrease/day
Others - grams increase/day

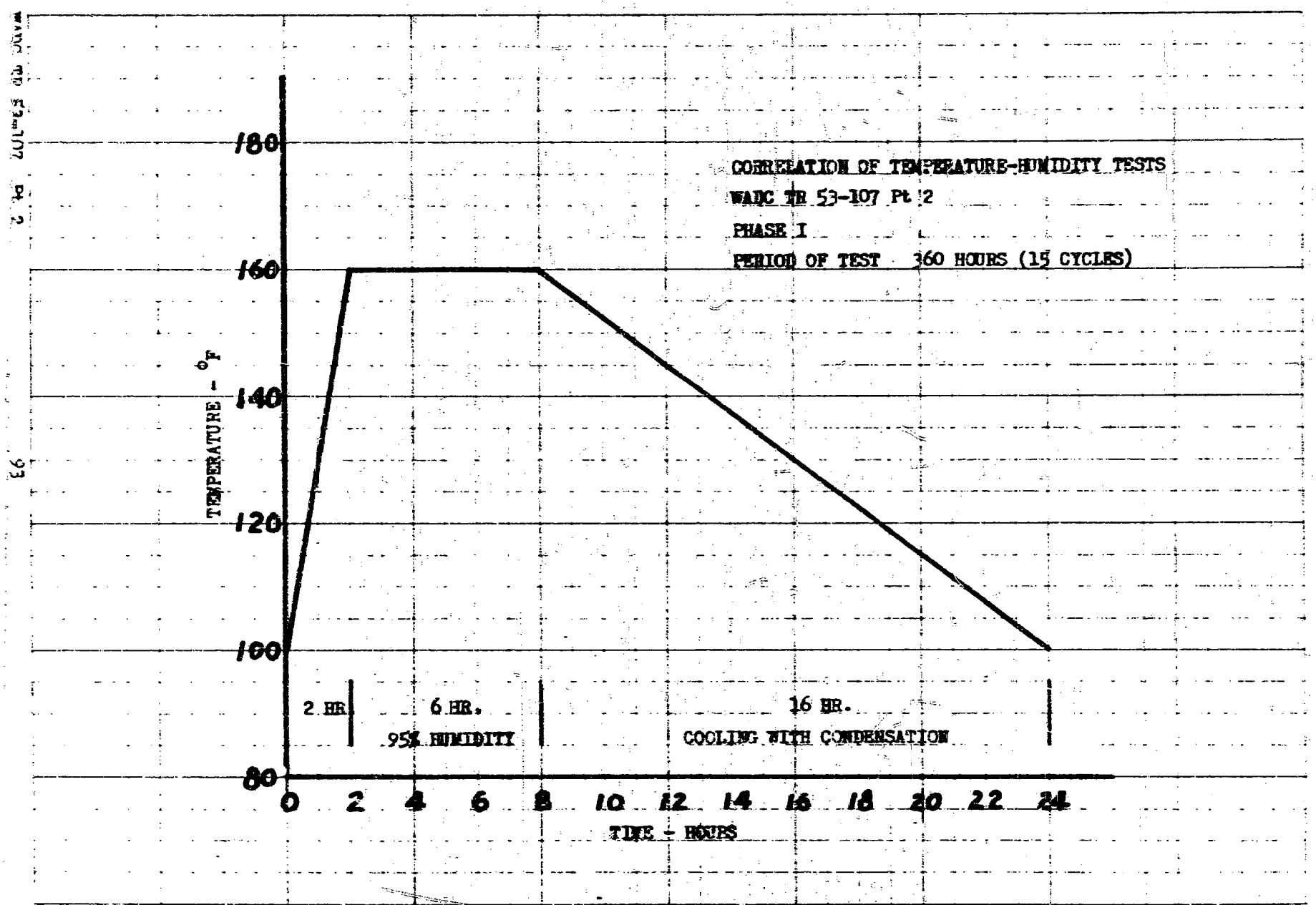


Figure 1

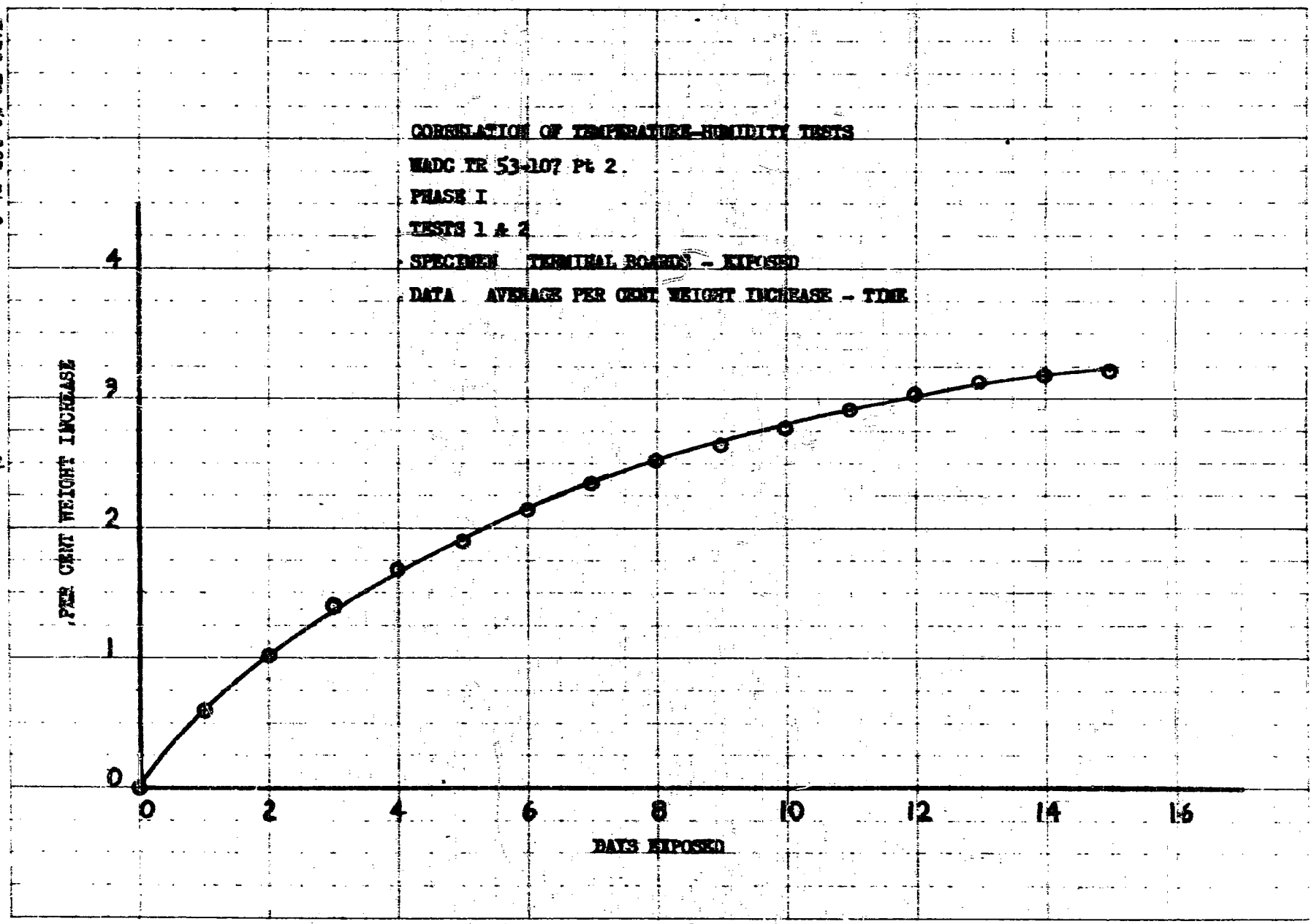


Figure 2

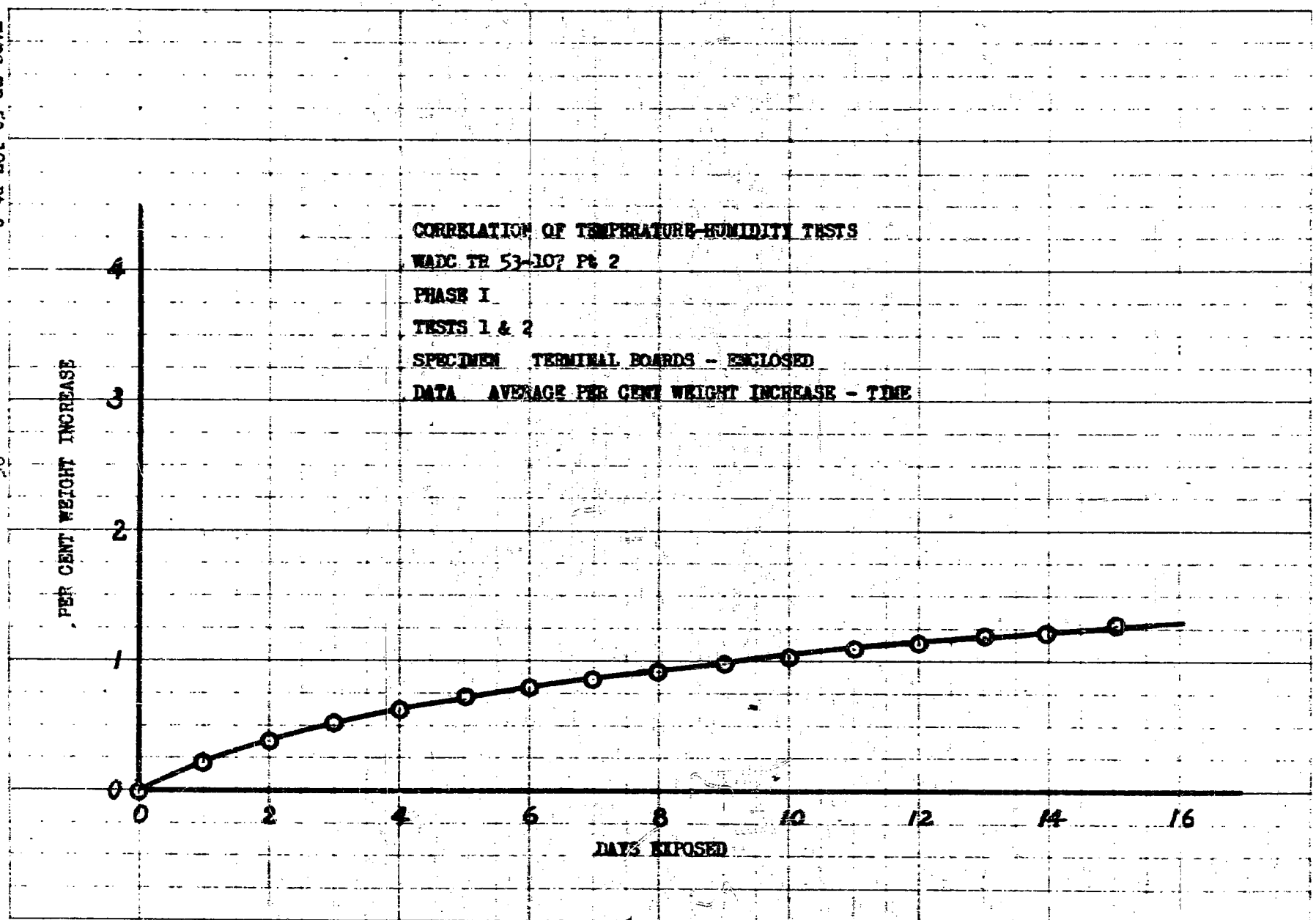


Figure 3

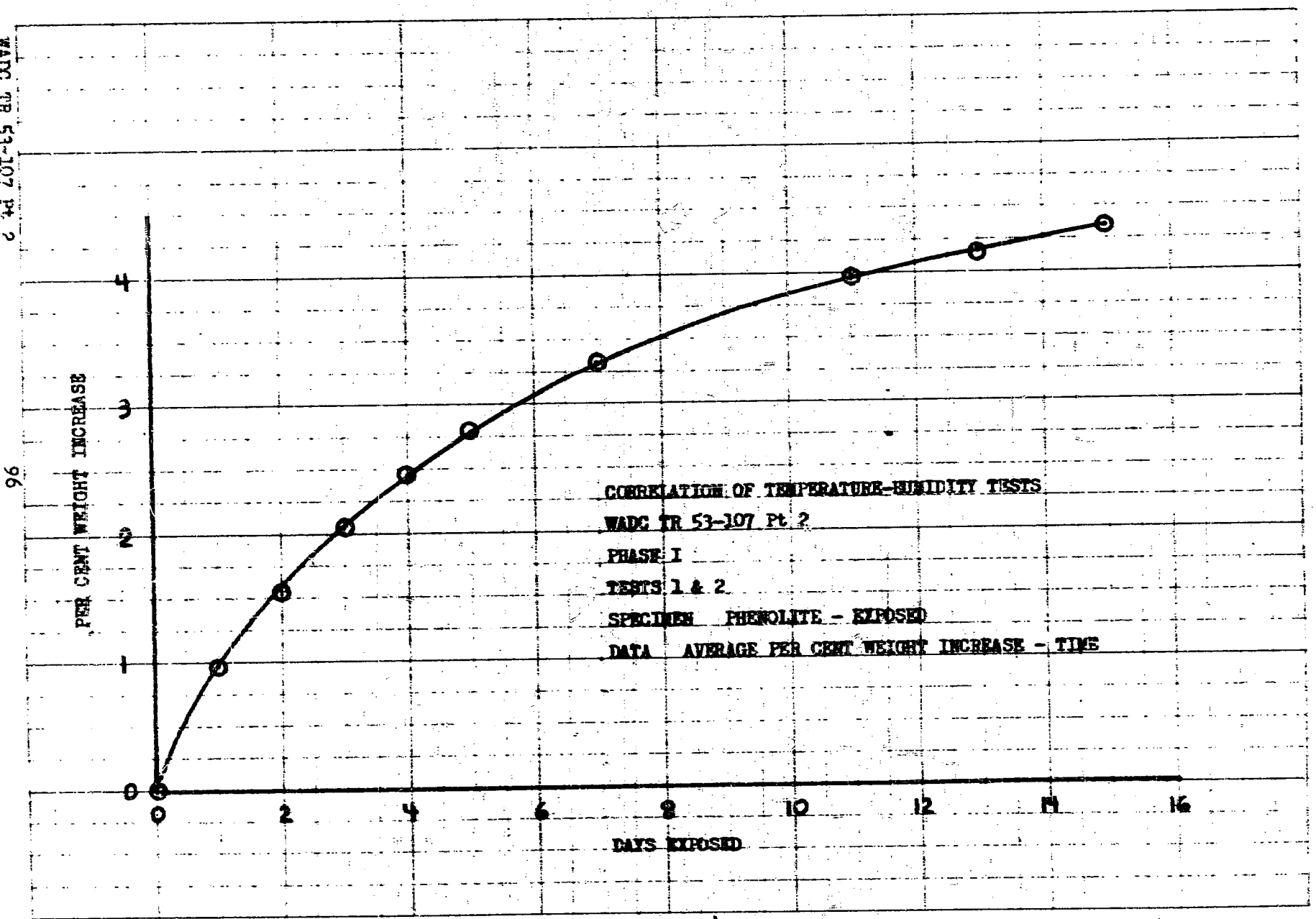


Figure 4

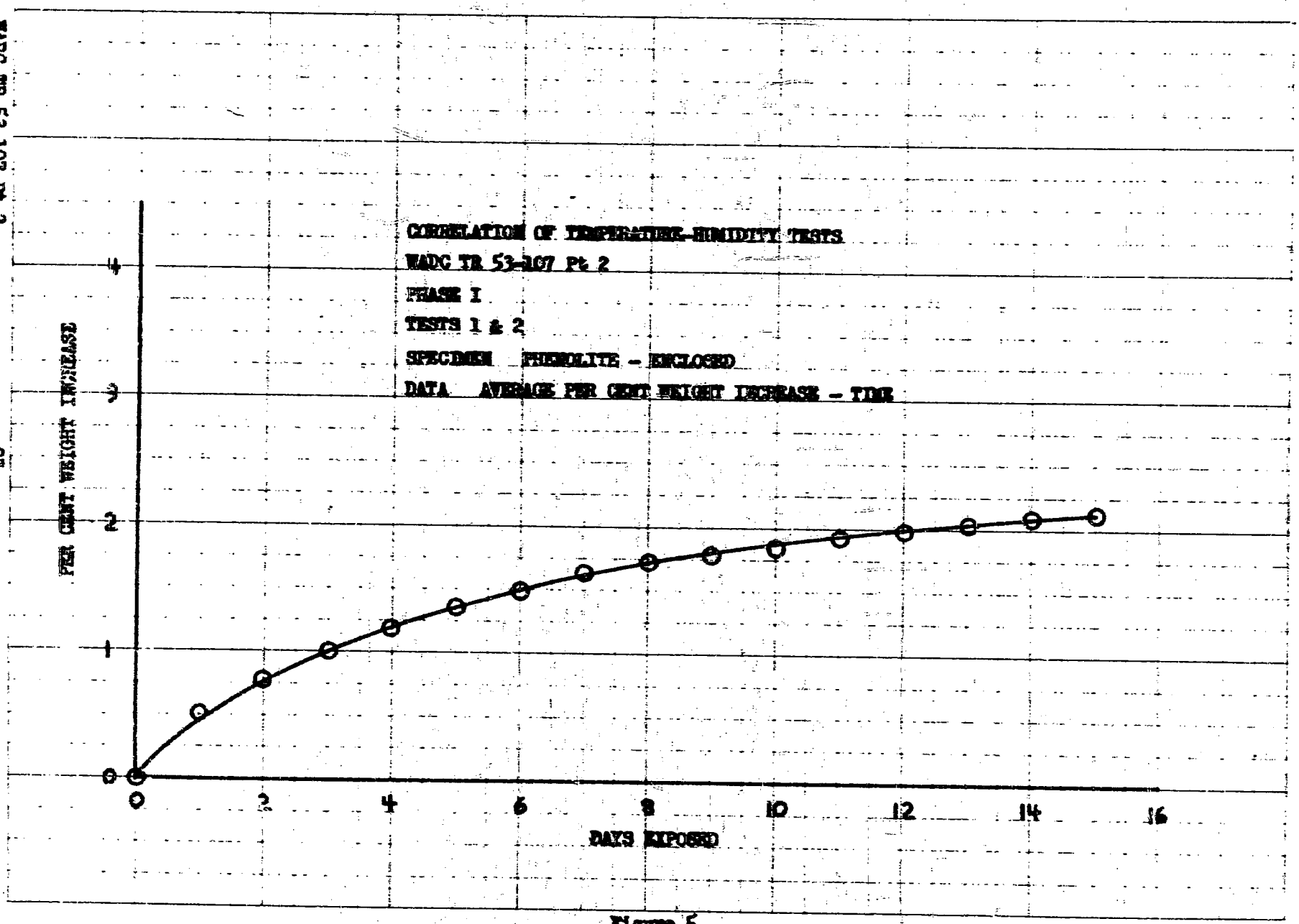


Figure 5

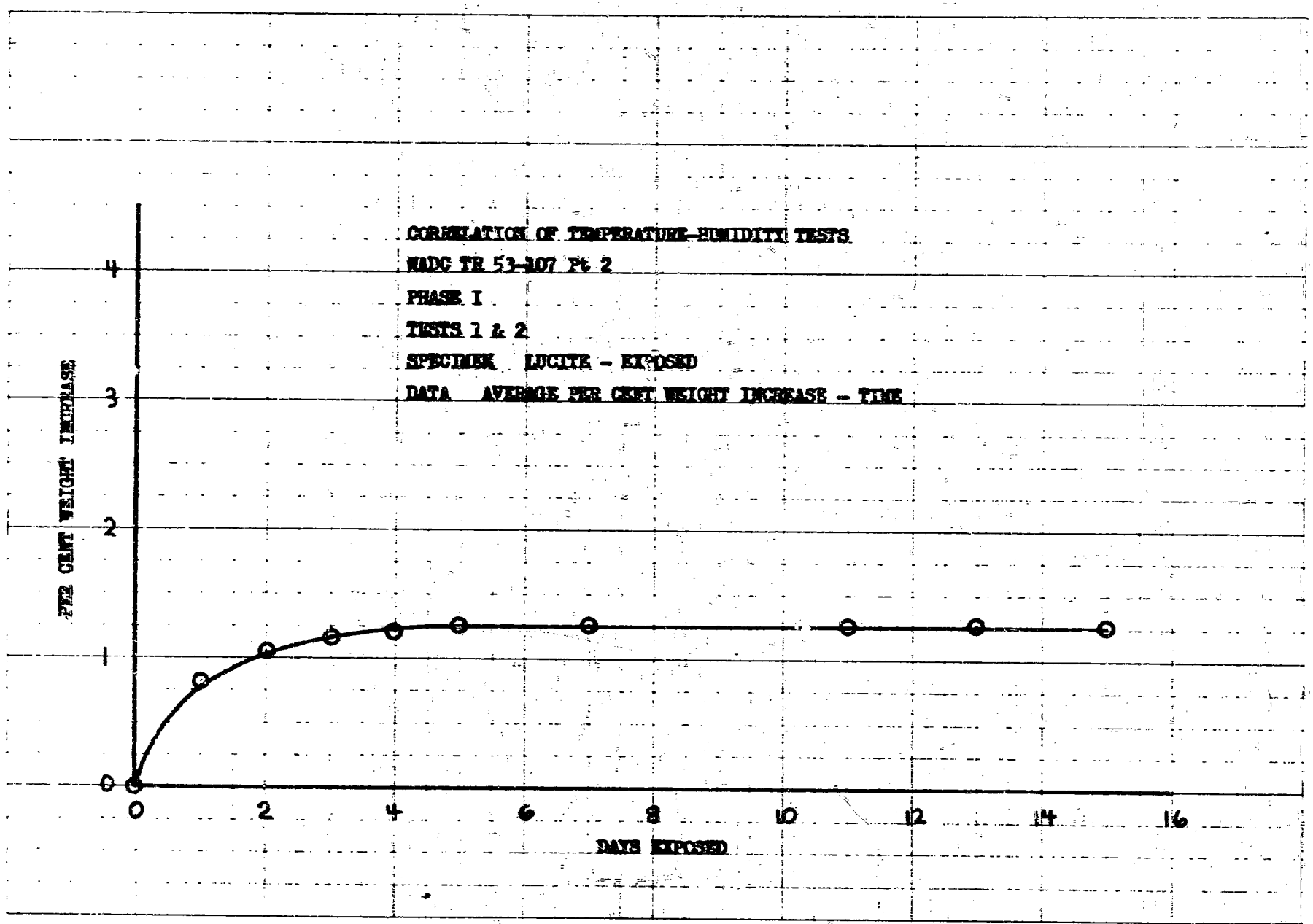


Figure 6

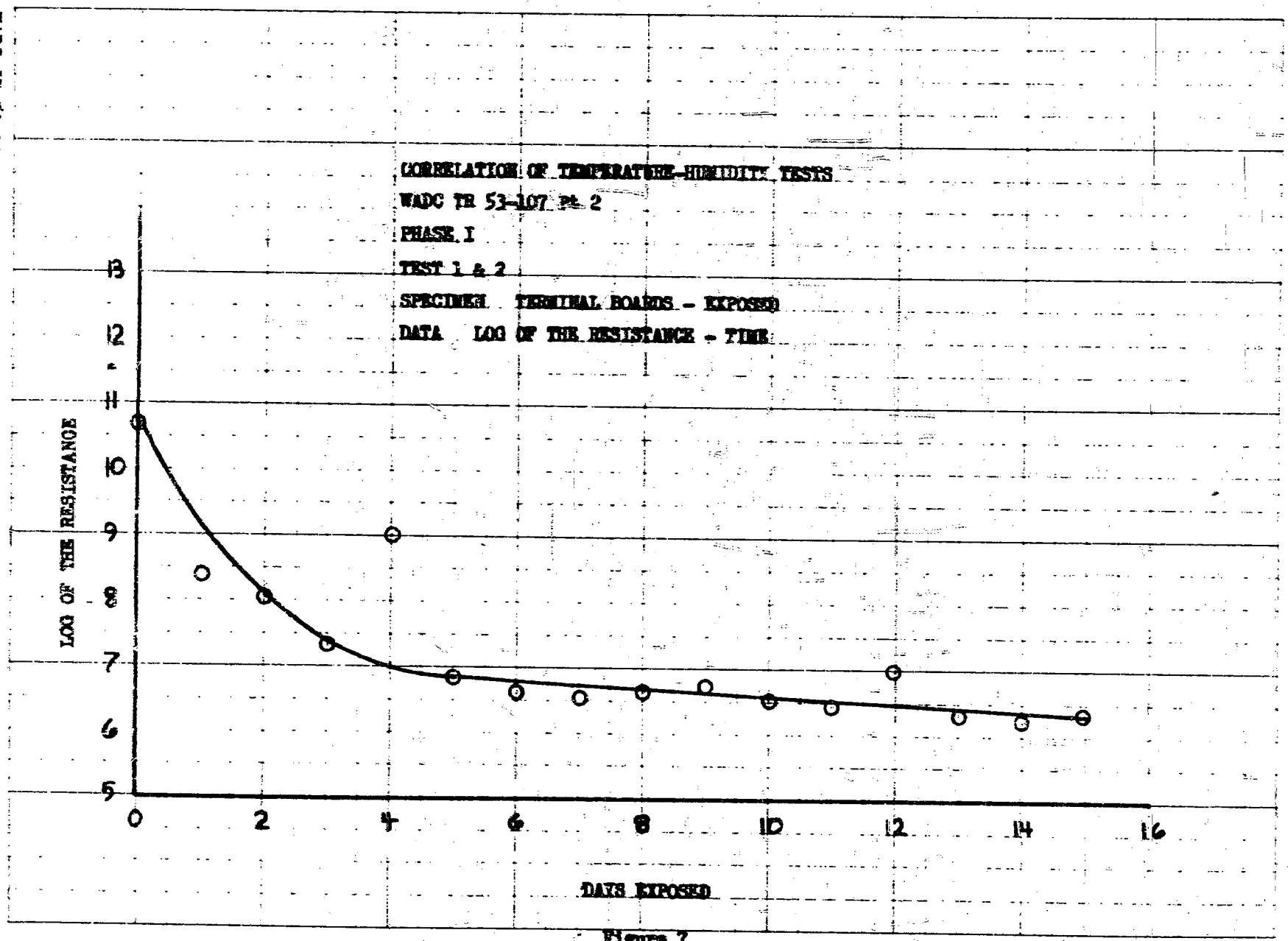


Figure 7

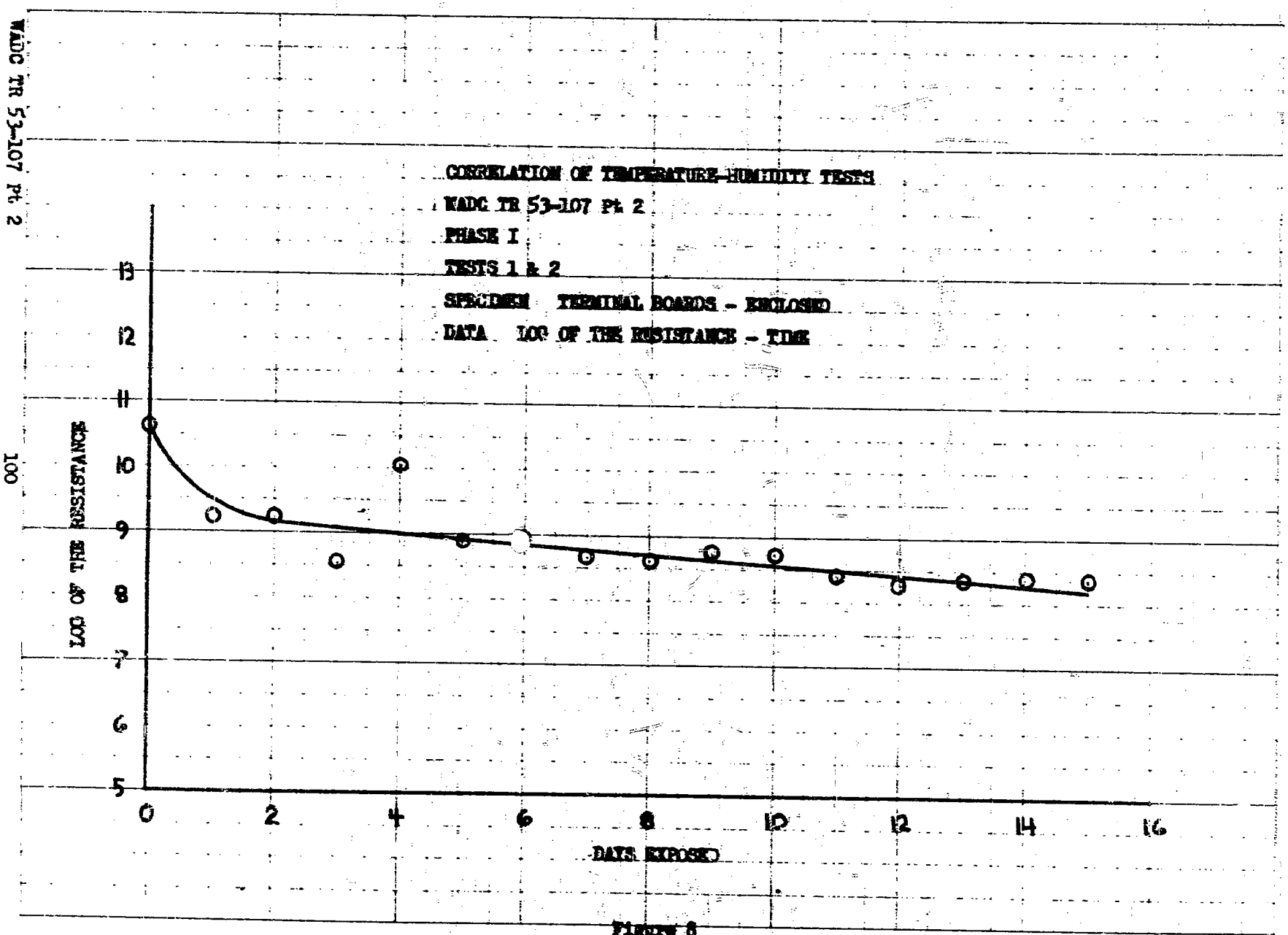


Figure 8

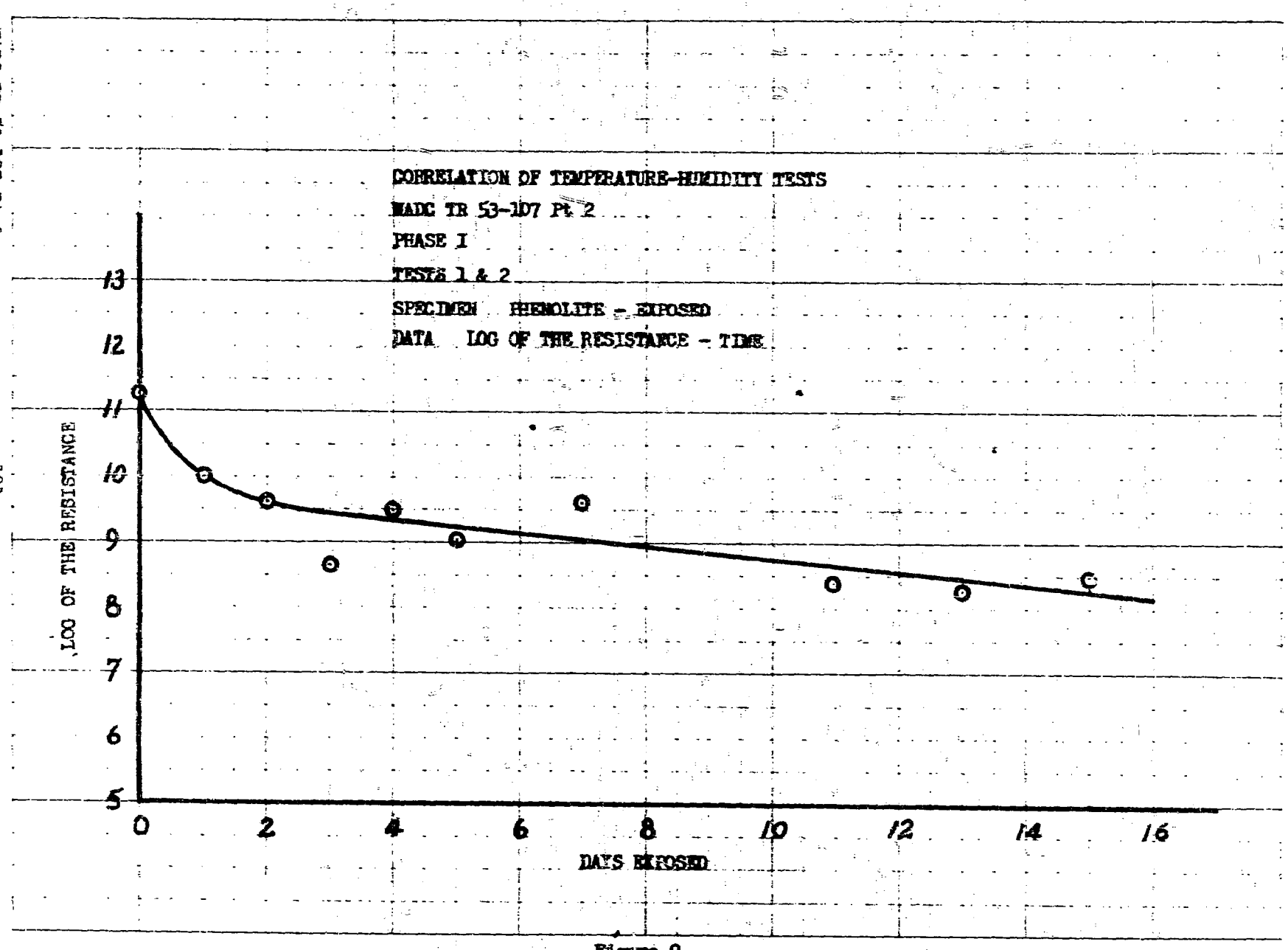


Figure 9

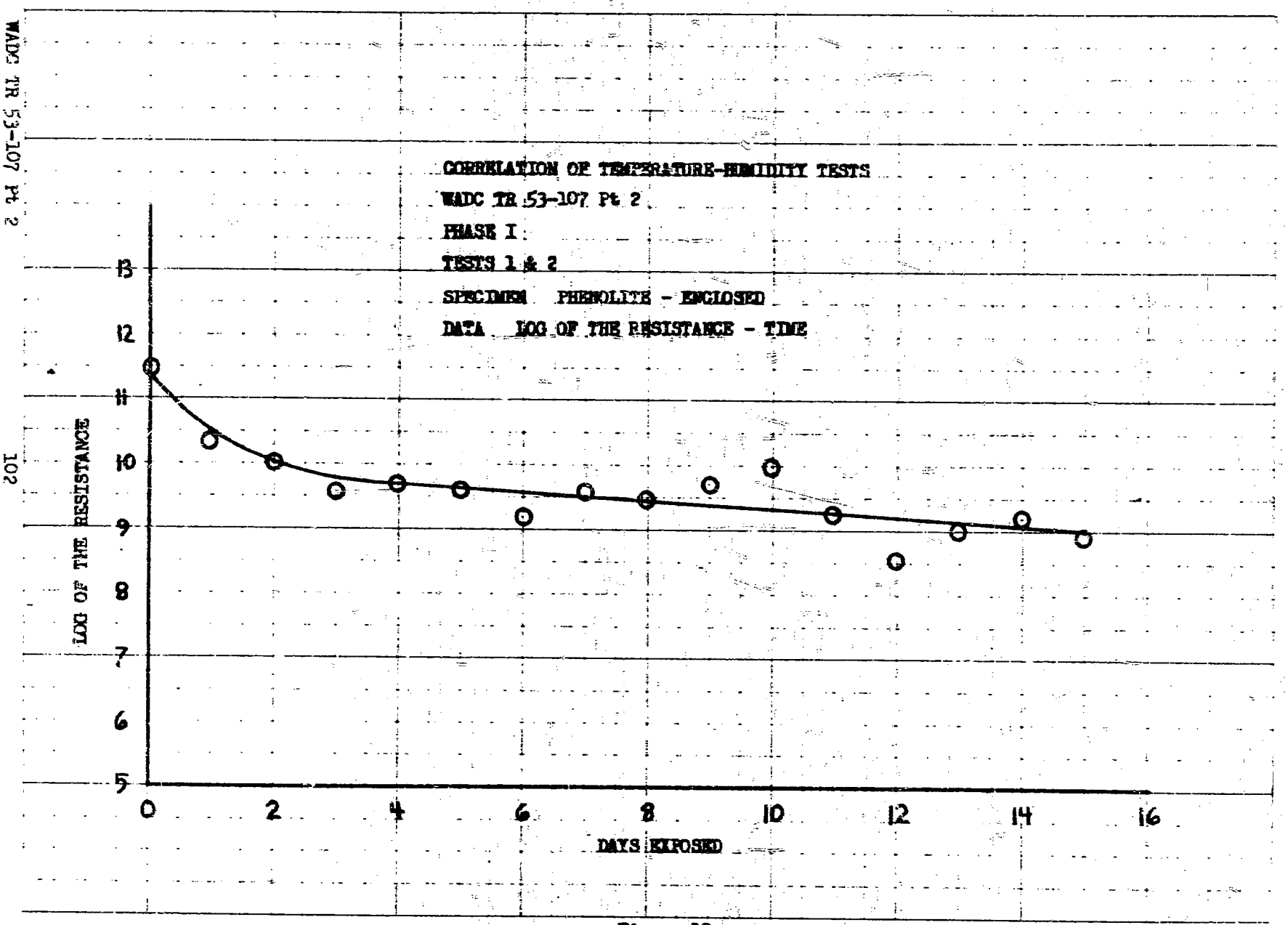
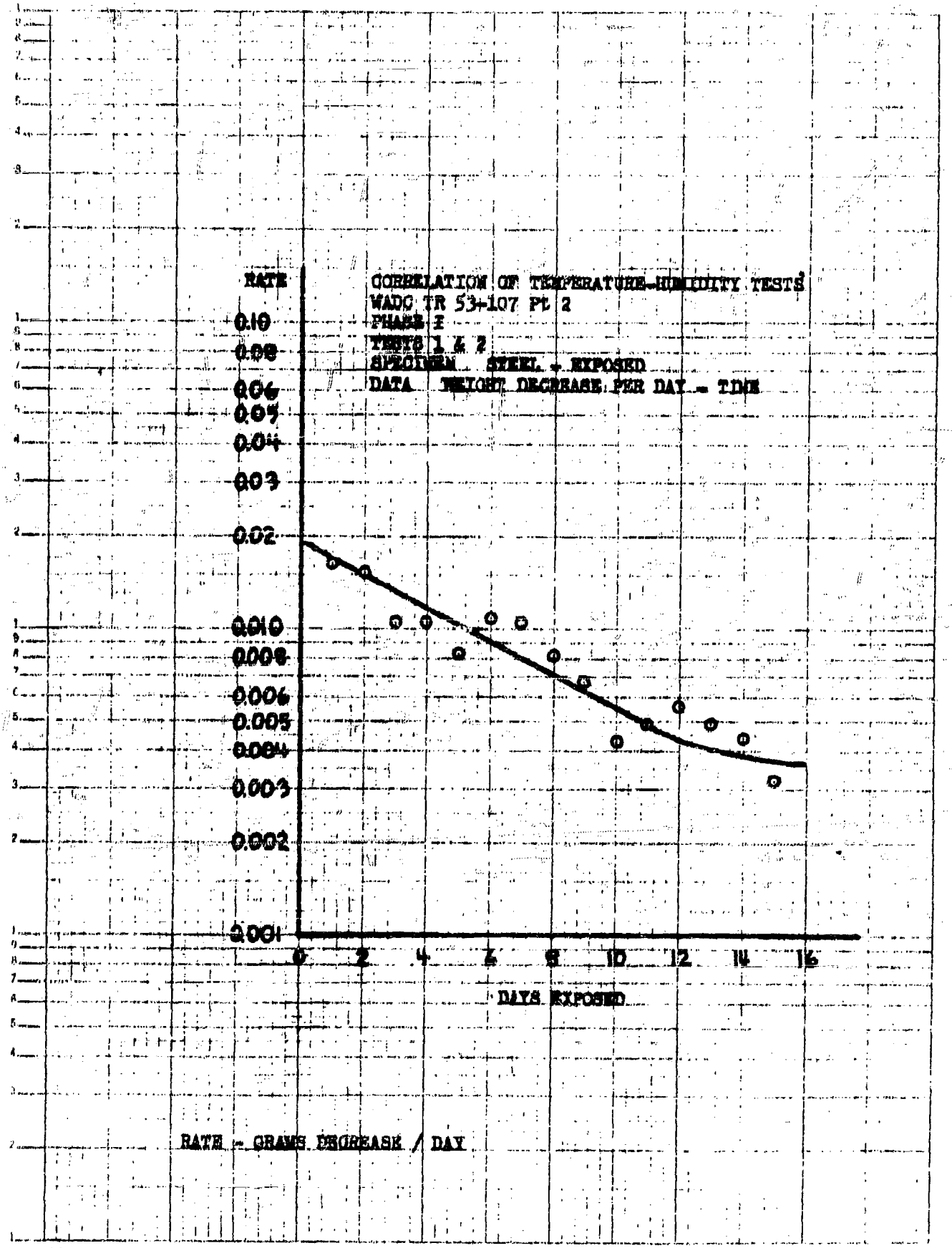
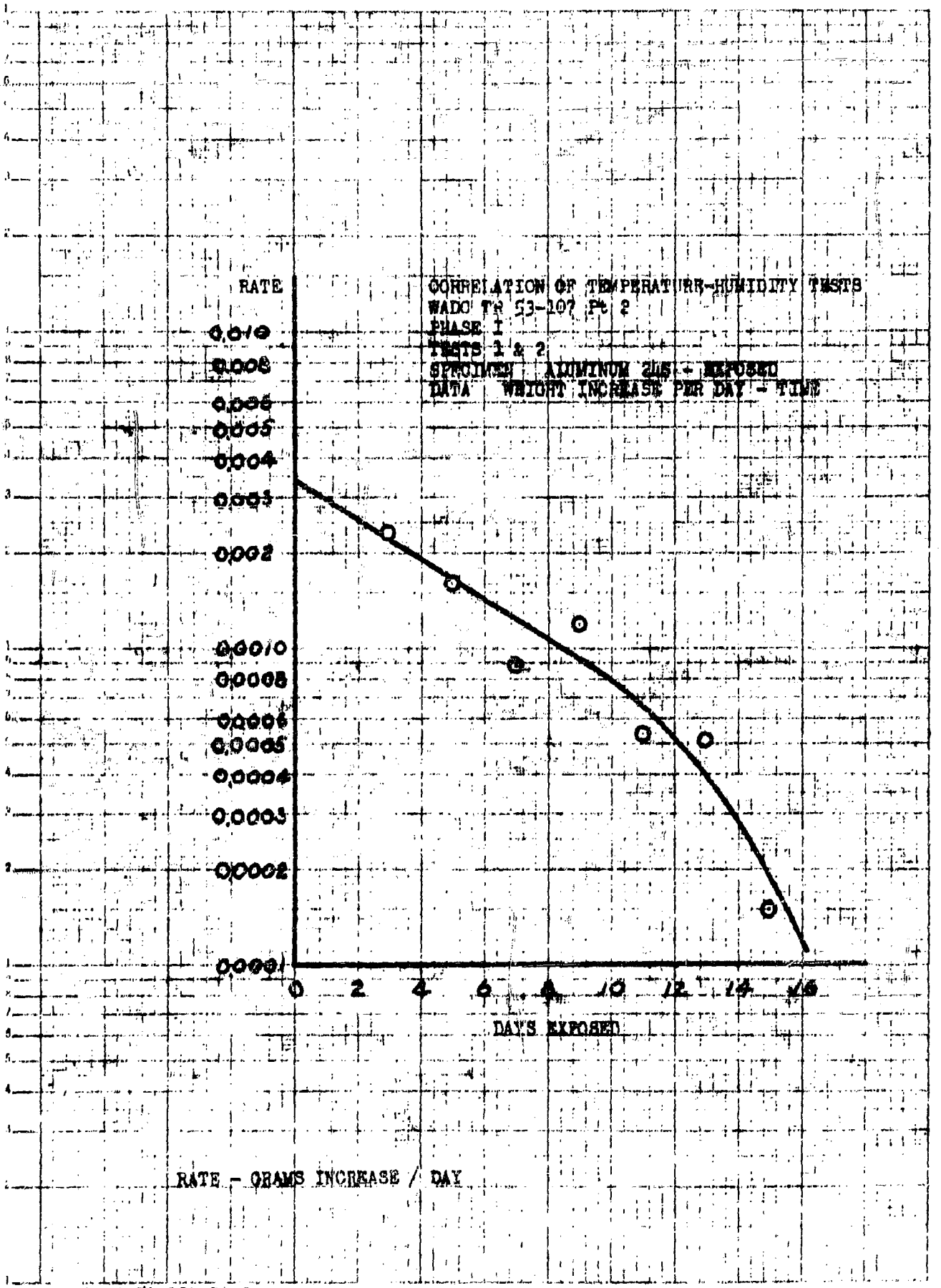
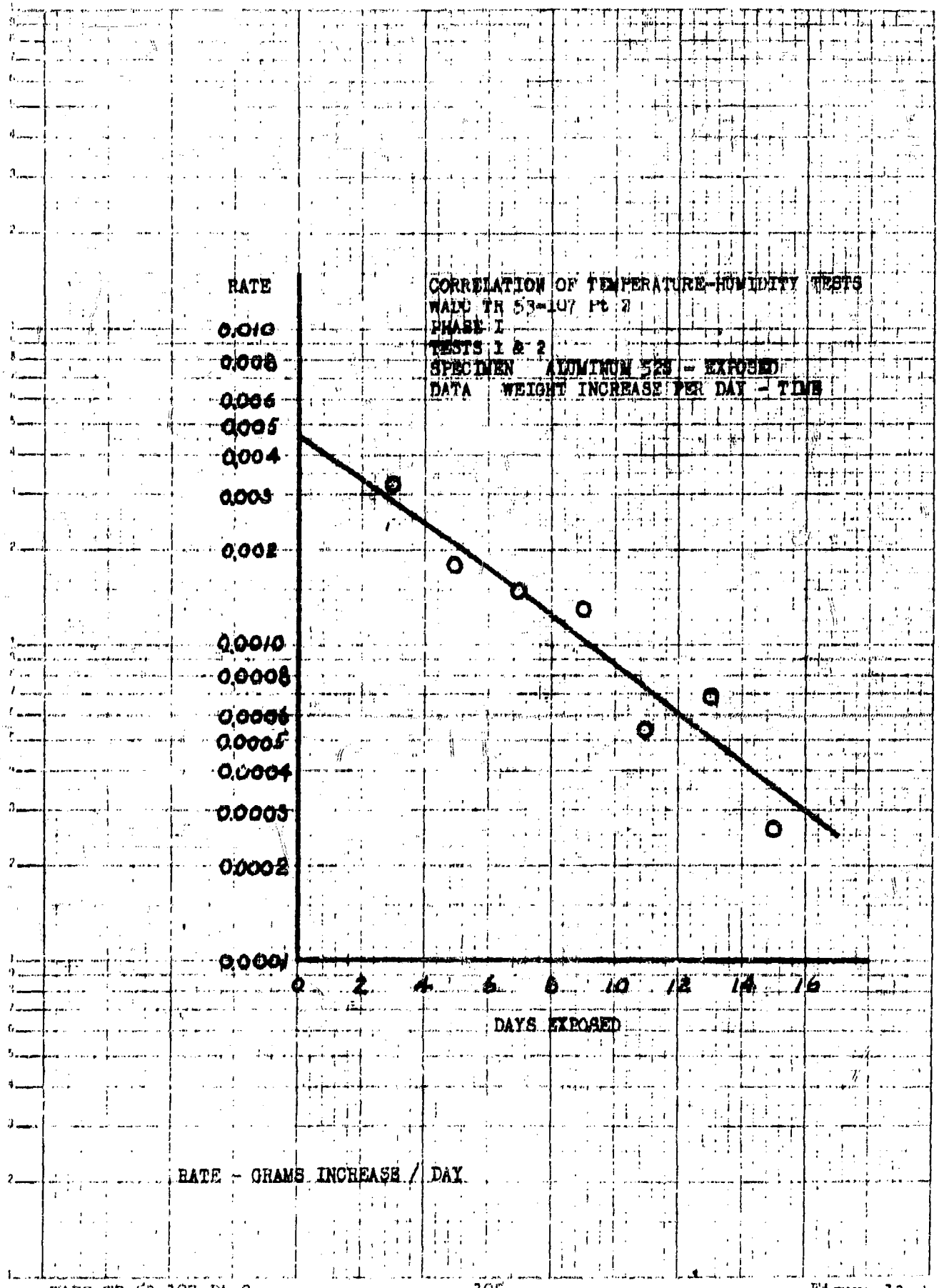


Figure 10


RATE
0.10
0.08
0.06
0.05
0.04
0.03
0.02
0.010
0.008
0.006
0.005
0.004
0.003
0.002
0.001
CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TESTS 1 & 2
SPECIMEN STEEL - EXPOSED
DATA WEIGHT DECREASE PER DAY - TDH
0 2 4 6 8 10 12 14 16
DAYS EXPOSED
RATE - GRAMS DECREASE / DAY


RATE
CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TESTS 1 & 2
SPECIMEN ALUMINUM 24S - EXPOSED
DATA WEIGHT INCREASE PER DAY - TIME
0.010
0.008
0.006
0.005
0.004
0.003
0.002
0.0010
0.0008
0.0006
0.0005
0.0004
0.0003
0.0002
0.0001
0
2
4
6
8
10
12
14
16
DAYS EXPOSED
RATE - GRAMS INCREASE / DAY



CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TESTS 1 & 2
SPECIMEN ALUMINUM 52S - EXPOSED
DATA WEIGHT INCREASE PER DAY - TIME

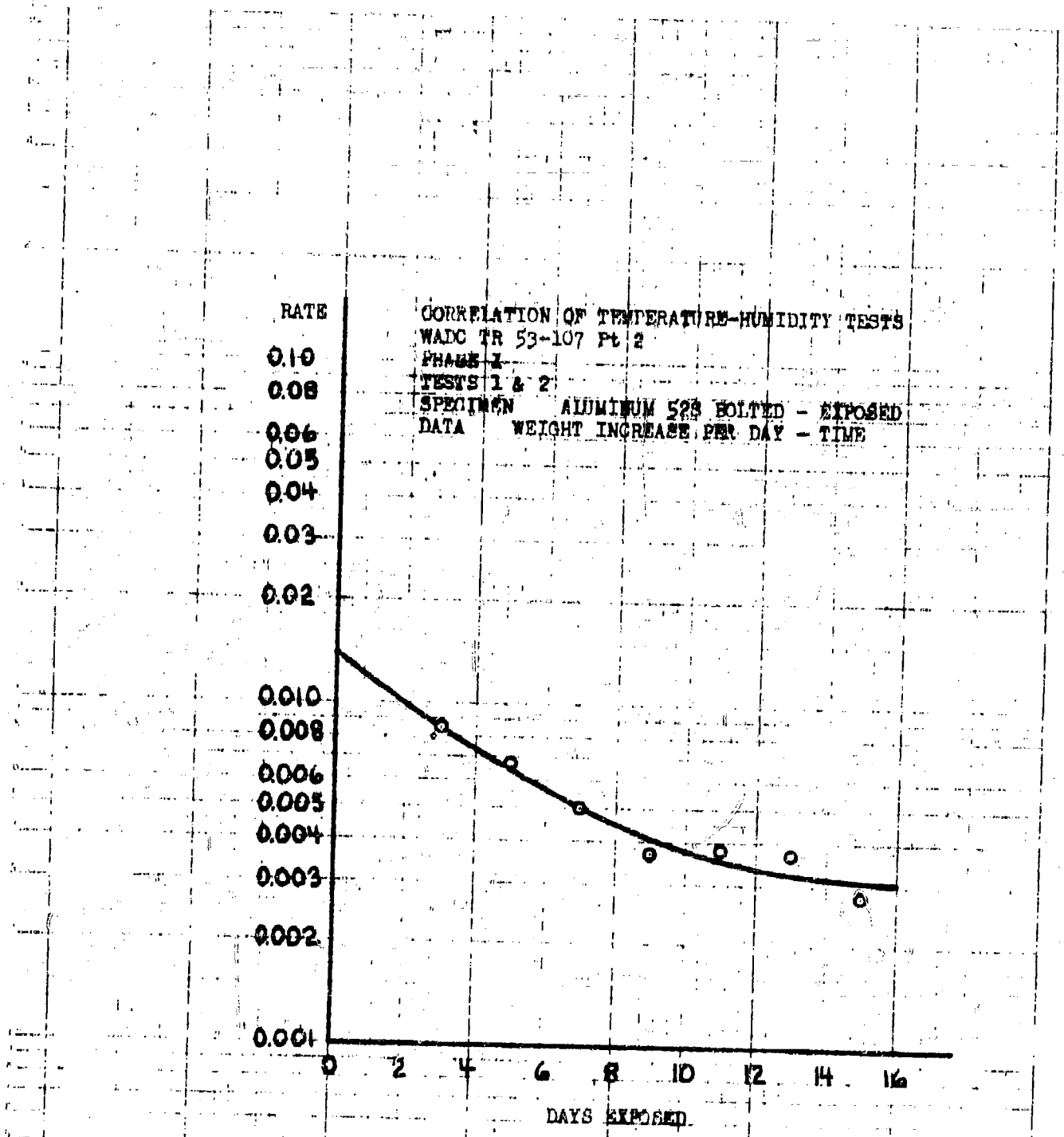
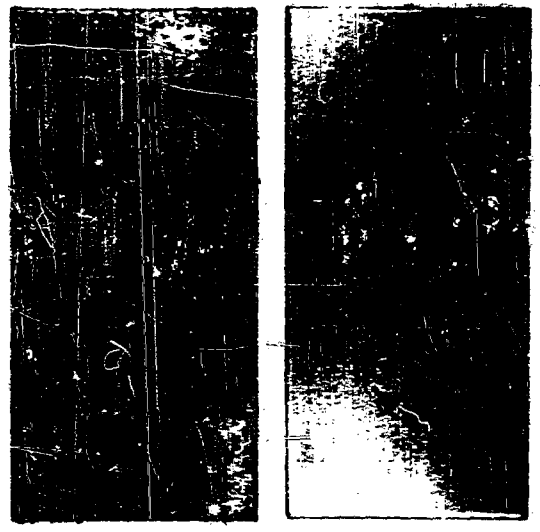

RATE
CORRELATION OF TEMPERATURE-HUMIDITY TESTS
WADC TR 53-107 Pt 2
PHASE I
TESTS 1 & 2
SPECIMEN ALUMINUM 52S BOLTED - EXPOSED
DATA WEIGHT INCREASE PER DAY - TIME
0.10
0.08
0.06
0.05
0.04
0.03
0.02
0.010
0.008
0.006
0.005
0.004
0.003
0.002
0.001
0
2
4
6
8
10
12
14
16
DAYS EXPOSED
RATE - GRAMS INCREASE / DAY

FIG. 15 STEEL AFTER ONE DAY EXPSURE

FIG. 16 STEEL AFTER THREE DAYS EXPSURE

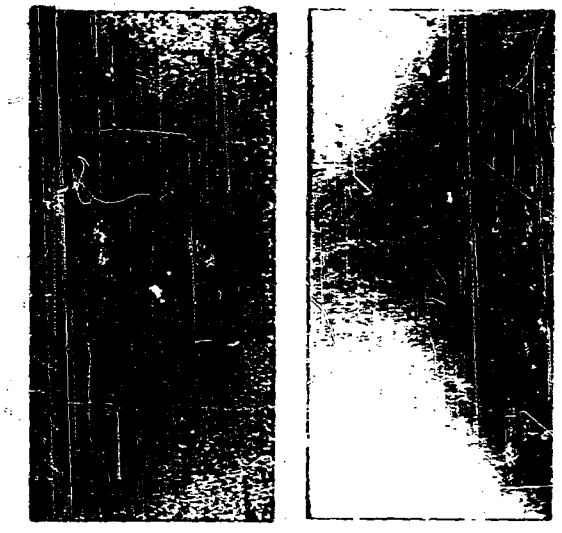
FIG. 17 STEEL AFTER FIVE DAYS EXPOSURE

FIG. 18 STEEL AFTER SEVEN DAYS EXPOSURE



EXPOSED 3-10-53 CONTROL STEEL

FIG. 19 STEEL AFTER NINE DAYS EXPOSURE



EXPOSED 3-12-53 CONTROL STEEL

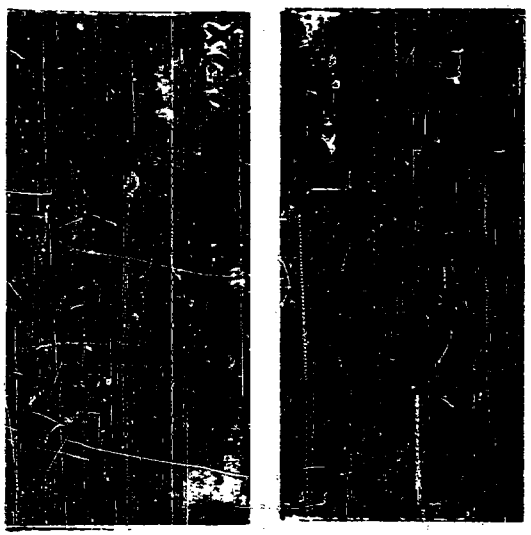
FIG. 20 STEEL AFTER ELEVEN DAYS EXPOSURE

EXPOSED 3-14-53 CONTROL STEEL

FIG. 21 STEEL AFTER THIRTEEN DAYS EXPOSURE

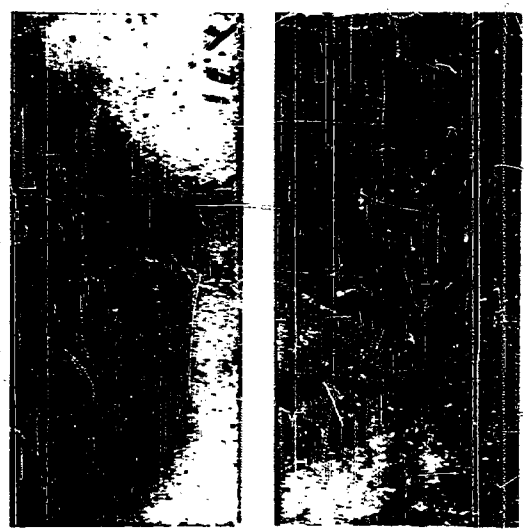
EXPOSED 3-16-53 CONTROL STEEL

FIG. 22 STEEL AFTER FIFTEEN DAYS EXPOSURE



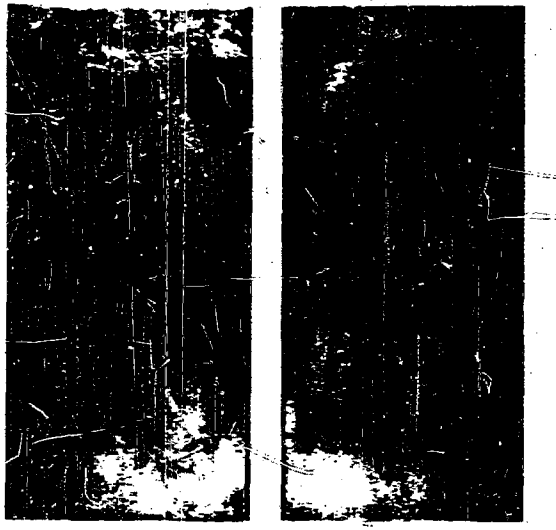
1 DAYS OF EXPOSURE 3
3-17-53 CLEANED STEEL

FIG. 23 STEEL AFTER REMOVAL OF CORROSION



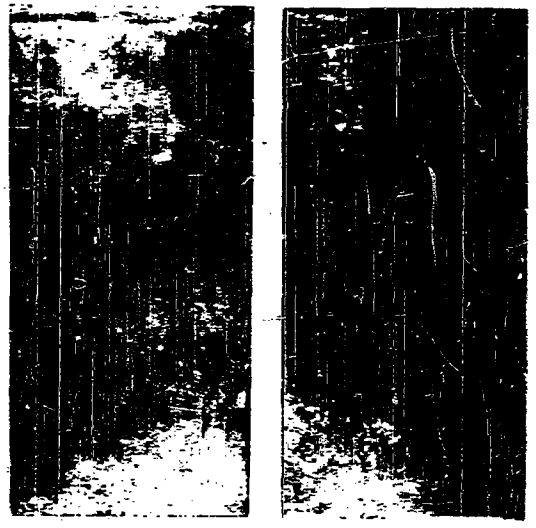
5 DAYS OF EXPOSURE 7
3-17-53 CLEANED STEEL

FIG. 24 STEEL AFTER REMOVAL OF CORROSION



10 DAYS OF EXPOSURE 11
3-17-53 CLEANED STEEL

FIG. 25 STEEL AFTER REMOVAL OF CORROSION



14 DAYS OF EXPOSURE 15
3-17-53 CLEANED STEEL

FIG. 26 STEEL AFTER REMOVAL OF CORROSION

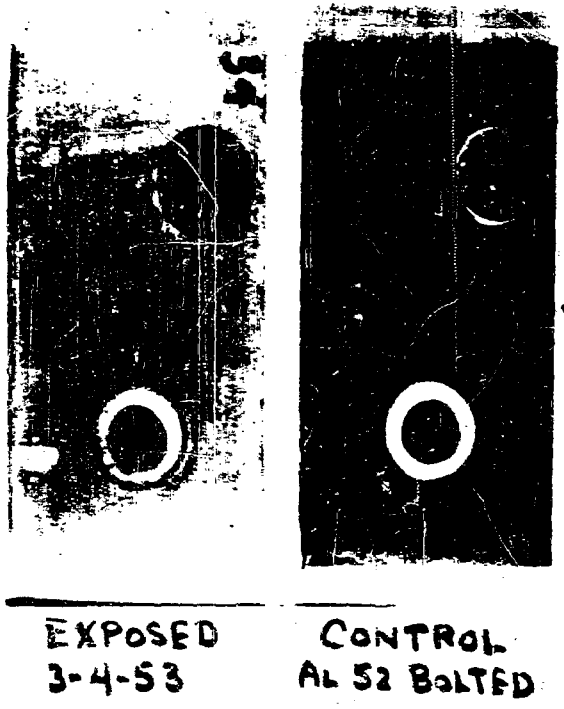


FIG. 27 BOLTED ALUMINUM AFTER THREE DAYS EXPOSURE

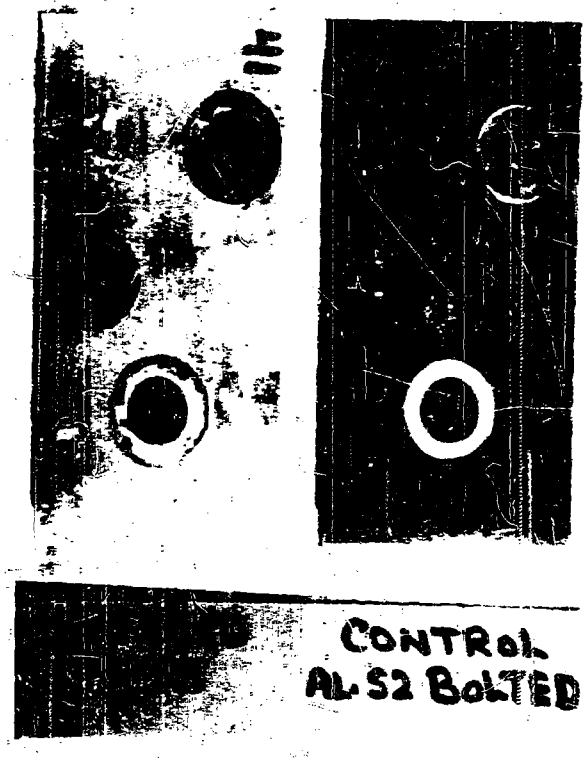


FIG. 28 BOLTED ALUMINUM AFTER SEVEN DAYS EXPOSURE

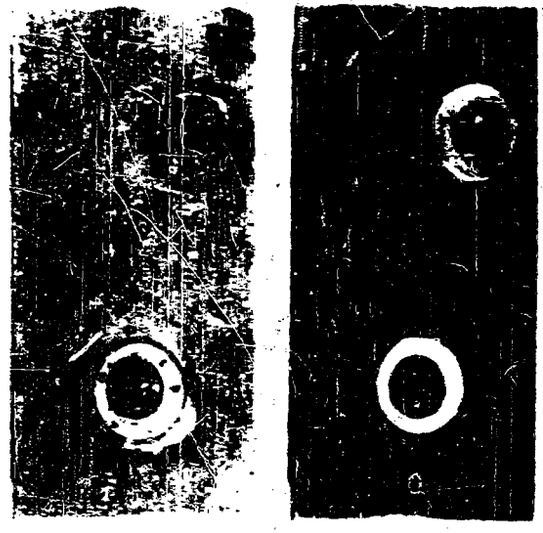


FIG. 29 BOLTED ALUMINUM AFTER ELEVEN DAYS EXPOSURE

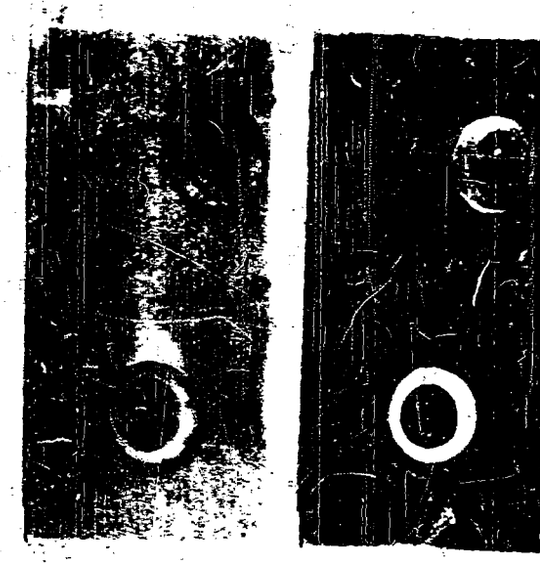


FIG. 30 BOLTED ALUMINUM AFTER FIFTEEN DAYS EXPOSURE

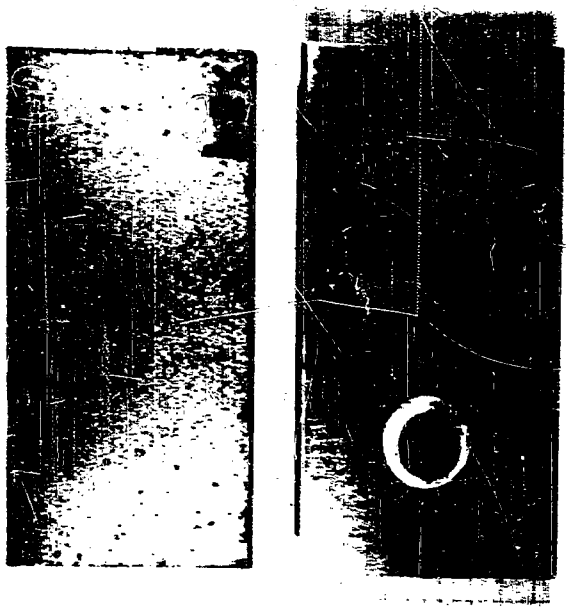


FIG. 31 ENCLOSED METALS AFTER ONE DAY EXPOSURE

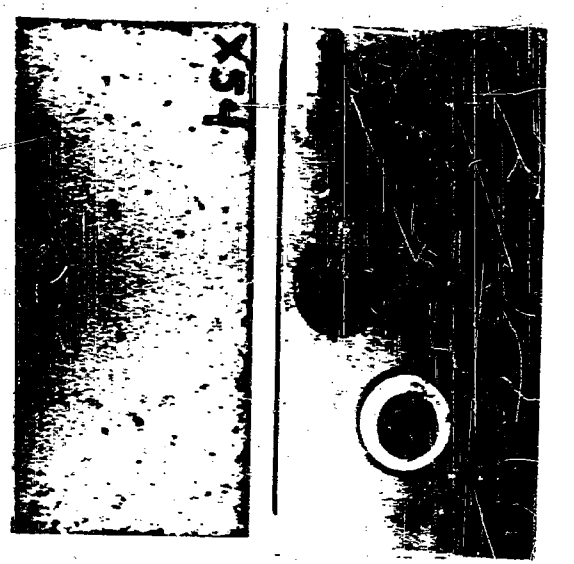


FIG. 32 ENCLOSED METALS AFTER THREE DAYS EXPOSURE

FIG. 33 ENCLOSED METALS AFTER FIVE DAYS EXPOSURE

FIG. 34 ENCLOSED METALS AFTER SEVEN DAYS EXPOSURE

FIG. 35 ENCLOSED METALS AFTER NINE DAYS EXPOSURE

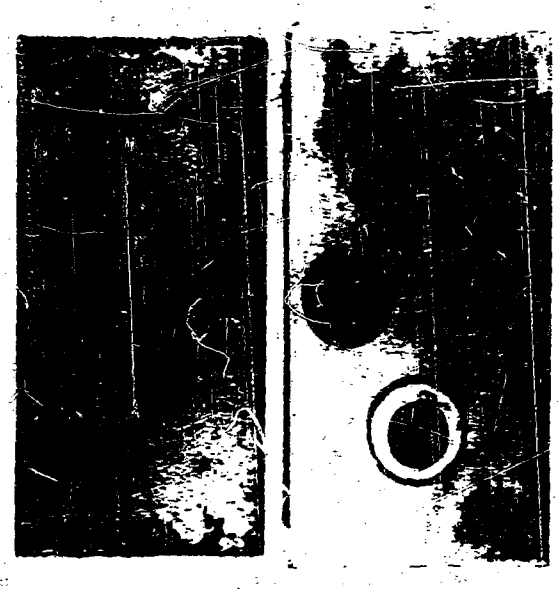


FIG. 36 ENCLOSED METALS AFTER ELEVEN DAYS EXPOSURE

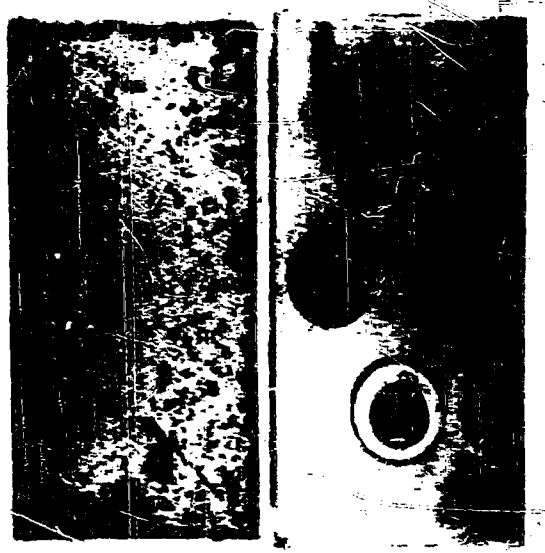


FIG. 37 ENCLOSED METALS AFTER THIRTEEN DAYS EXPOSURE

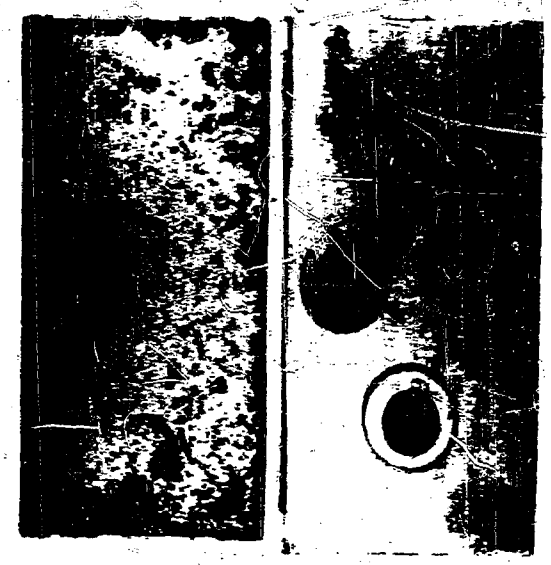


FIG. 38 ENCLOSED METALS AFTER FIFTEEN DAYS EXPOSURE